

DISSERTATIONES RERUM OECONOMICARUM  
UNIVERSITATIS TARTUENSIS

**43**



## **REELIKA IRS**

Teacher performance appraisal and  
remuneration aspects of performance  
management on the example of  
Estonian general educational schools



The Faculty of Economics and Business Administration, the University of Tartu, Estonia

This dissertation is accepted for the defence of the degree of Doctor of Philosophy (in Economics) on 23 April 2012 by the Council of the Faculty of Economics and Business Administration, the University of Tartu.

Supervisor: Professor Kulno Türk (PhD), University of Tartu, Estonia  
Consultant: Associate Professor Kaia Philips (PhD), University of Tartu, Estonia

Opponents: Professor Iris Aaltio (PhD), University of Jyväskylä, Finland,  
Professor Milvi Tepp (PhD), Tallinn University of Technology

The public defence of the dissertation is on June 19 2012 at 14.00 in room B306, Narva Rd. 4, Oeconomicum, the University of Tartu.

The publication of this dissertation is granted by the Faculty of Economics and Business Administration, the University of Tartu.



European Union  
European Social Fund



Investing in your future

Publication of this thesis is granted by the Doctoral School of Economics and Innovation created under the auspices of European Social Fund.

ISSN 1406–1309

ISBN 978–9949–32–019–6 (trükis)

ISBN 978–9949–32–020–2 (pdf)

Copyright Reelika Irs, 2012

Tartu University Press

tyk.ut.ee

Order no. 219

## TABLE OF CONTENTS

LIST OF ORIGINAL PUBLICATIONS .....	9
INTRODUCTION .....	12
1. THEORETICAL FOUNDATIONS OF TEACHER PERFORMANCE APPRAISAL AND REMUNERATION ASPECTS OF PERFORMANCE MANAGEMENT IN SCHOOLS .....	20
1.1. Defining performance management and appraisal and remuneration aspects of performance management.....	20
1.1.1. Performance management as a management tool .....	20
1.1.2. Performance appraisal and performance-related pay .....	27
1.1.3. The singularity of performance management in schools and criticism about performance appraisal and performance-related pay.....	40
1.2. The design and implementation of appraisal and remuneration aspects of performance management.....	56
1.2.1. The framework of activities for preparing to implement performance management .....	56
1.2.2. Stages and principles of performance appraisal design.....	66
1.2.3. Stages and principles for performance-related pay design and alternatives for rewarding teachers on the basis of their performance.....	81
2. EMPIRICAL STUDY FOR DEVELOPING TEACHER PERFORMANCE APPRAISAL AND REMUNERATION ASPECTS OF PERFORMANCE MANAGEMENT .....	98
2.1. The research outline and methodology for exploring teacher performance appraisal and remuneration aspects of performance management in Estonian general educational schools.....	98
2.1.1. Research process and sample .....	98
2.1.2. Methodological considerations and methods used in the research.....	106
2.2. Results from research into teacher performance appraisal in Estonian general educational schools .....	118
2.2.1. Implementation of teacher performance appraisal and the relationships between pedagogues' opinions in Estonian general educational schools.....	118
2.2.2. The current usage of teacher performance appraisal criteria and pedagogues' preferences in selecting performance appraisal criteria .....	133
2.3. Research results on remuneration in Estonian general educational schools .....	146
2.3.1. Implementation of performance-related pay for teachers and the relationships between pedagogues' opinions in Estonian general educational schools.....	146

2.3.2. The current use of and pedagogues' preferences in selecting performance-related pay criteria .....	165
2.4. Synthesis and discussion of the research results about the relationships between school management, teachers' activities and implementation of performance management .....	176
2.4.1. Teacher performance appraisal and performance-related pay as a tool for managing school performance .....	176
2.4.2. Managerial proposals for developing teacher performance appraisal and performance-related pay in Estonian general educational schools .....	196
CONCLUSIONS .....	208
REFERENCES .....	220
APPENDICES .....	235
Appendix 1. Definitions of performance management by several authors, year published and focus .....	237
Appendix 2. Examples of studies estimating the relationships between teacher salaries and school performance .....	240
Appendix 3. The questionnaire for school headmasters in Estonian general educational schools .....	244
Appendix 4. The principles of operation for Estonian general educational schools .....	255
Appendix 5. School financing and budget .....	258
Appendix 6. Size and composition of the sample of the main research conducted in Estonian general educational schools with the respect to age, pedagogical experience, working experience in school, weekly workload, occupational level, qualification .....	262
Appendix 7. An example of the questionnaire in the case studies .....	263
Appendix 8. The results of the case studies .....	264
Appendix 9. The gap between reasonability and the actual use of performance appraisal criteria in Estonian general educational schools .....	272
Appendix 10. Comparative view of pedagogues' opinions of whether teacher performance appraisal criteria are reasonable .....	274
Appendix 11. Performance-related pay criteria used for rewarding teachers work performance in Estonian general educational schools .....	276
Appendix 12. The gap between pedagogues' preferences in performance-related pay criteria .....	279
Appendix 13. Comparative view of school headmasters' and teachers' opinions of how reasonable performance-related pay criteria are in rewarding teachers' work performance in Estonian general educational schools .....	280

Appendix 14. Comparative view of the 10 most frequently mentioned performance appraisal criteria, performance-related pay criteria and school performance indicators in Estonian general educational schools .....	281
SUMMARY IN ESTONIAN .....	283
CURRICULUM VITAE .....	315





# LIST OF ORIGINAL PUBLICATIONS

## I Monographs and chapters in monographs

1. **Aidla, A.; Irs, R.; Türk, K.** (2012), Creating Innovation in the Education Sector: Policy Implications. Carayannis, E. G.; Varblane, U.; Roolah, T (Toim.). *Innovation Systems in Small Catching-Up Economies: New Perspectives on Practice and Policy*, pp. 371–388. Springer.
2. **Türk, K., Irs, R.** Tulemustasustamine üldharidussüsteemis: kriteeriumid ja võimalused. Accepted for publication in monograph „Tulemuslikkuse arvestus ja juhtimine avaliku sektori organisatsioonides“, Ed. T. Haldma.
3. **Türk, K.; Haldma, T., Kukkemelk, H.; Ploom, K.; Irs, R.; Pukkonen, L.** (2011), Üldharidus- ja kutsekoolide tulemuslikkus ja seda mõjutavad tegurid, Tartu Ülikooli Multimeedialitus.

## II Articles in international journals

1. **Irs, R. and Türk, K.** (2012), “Perspectives and possibilities of implementing pay-for-performance in Estonian general education schools”, *Employee Relations*, Vol. 34, Issue 4, p. 31.
2. **Irs, R.** (2012), “Pay-for-performance in Estonian general educational schools – the situation for further development”, *Baltic Journal of Management*, Vol.7 Issue 3 (forthcoming).

## III Other articles in conference proceedings

1. **Ploom, K., Irs, R.** (2010), “Managing educational sector via self-evaluation policy”, in Mäeltsemees, S., Reiljan, J., Raudjärv, M. (Ed.), *discussions on Estonian economic policy conference proceedings in Värskas, Estonia, 1–3 July 2009*, Berlin, Tallinn: Berliner Wissenschafts-Verlag, Mattimar, pp. 303–322.
2. **Ploom, K.; Irs, R.** (2010), “Haridussüsteemi juhtimine läbi sisehindamise”, in Mäeltsemees, S., Reiljan, J., Raudjärv, M. (Ed.), *discussions on Estonian economic policy conference proceedings in Värskas, Estonia, 1–3 July 2009*, Berlin, Tallinn: Berliner Wissenschafts-Verlag, Mattimar, pp. 98–102.
3. **Irs, R., Türk, K., Vadi, M.** (2009), “The Possibilities for Appraising Teachers’ Performance in the Perspective of Educational Policy and Organizational Culture”, in Mäeltsemees, S., Reiljan, J. (Ed.), *discussions on Estonian economic policy XVII conference proceedings in Värskas, Estonia, 1–3 July 2009*, Berlin\*Tallinn: Berliner Wissenschafts-Verlag, Mattimar, pp. 37–60.

4. **Reisberg, T., Irs, R.** (2009), "Towards Effective Educational Politics Through Improving the Performance Measurement System", in Mäeltsemees, S., Reiljan, J. (Ed.). *discussions on Estonian economic policy XVII conference proceedings in Värskas, Estonia, 1–3 July 2009*, Berlin, Tallinn: Berliner Wissenschafts-Verlag, Mattimar, pp. 284–302.
5. **Reisberg, T., Irs, R.** (2009), "Efektiivse hariduspoliitika saavutamine läbi tegevustulemuslikkuse mõõtmise" in Mäeltsemees, S., Reiljan, J. (Ed.). *discussions on Estonian economic policy XVII conference proceedings in Värskas, Estonia, 1–3 July 2009*, Tallinn\*Berlin: Berliner Wissenschafts-Verlag, Mattimar, 2009, pp. 93–96.
6. **Irs, R. and Ploom, K.** (2009), "Enhancing the Performance of Estonian Primary Schools via Evaluation", in Petter, R., Barsauskas, P., Chmieliauskas, A., Kundrotas, V., Pundziene, A. (Ed.), *modern management research conference proceedings "Insights Into the Sustainable Growth of Business" in Vilnius, Lithuania, 19–21 November 2009*, Emerald Group Publishing Limited, pp. 1–14.
7. **Irs, R., Türk, K., Vadi, M.** (2009), "Õpetajate töösoorituse hindamise võimalused hariduspoliitika ja organisatsioonikultuuri perspektiivist lähtuvalt", in Mäeltsemees, S., Reiljan, J. (Ed.). *discussions on Estonian economic policy XVII conference proceedings in Värskas, Estonia, 1–3 July 2009*, Tallinn\*Berlin: Berliner Wissenschafts-Verlag, Mattimar, 2009, pp. 27–32.
8. **Türk, K., Irs, R.** (2009), „Eesti üldharidussüsteemi õpetajate hindamine ja tulemustasustamine (kriteeriumid, probleemid ja võimalused)“, in *IV International Conference "Management Theory and Practice: Synergy in Organizations" Proceedings: IV International Conference "Management Theory and Practice: Synergy in Organizations" in Tartu, Estonia, 3–4 April 2009*, pp. 1–27.
9. **Reisberg, T., Irs, R.** (2009), „Incorporating private sector management practices into the public sector: how to evaluate efficiency?“, in *IV International Conference "Management Theory and Practice: Synergy in Organizations" Proceedings: IV International Conference "Management Theory and Practice: Synergy in Organizations" in Tartu, Estonia, 3–4 April 2009*, pp. 1–25.
10. **Irs, R., Türk, K.** (2009), „Tulemusjuhtimine koolides: kuidas hinnata pedagoogide töösooritust ja kooli tegevustulemuslikkust?“, in *The Annual Conference of the Estonian Business Economics Association, in Toila, Estonia, 30–31 January 2009*, pp. 1–14.
11. **Irs, R.** (2008), „Enhancing the Efficiency of Estonian Public Administration by the Process of Creating Staff (By the Case of Estonian Ministry of Agriculture and the Estonian Agricultural Registers and Information Board)“, in Kramer, J. W., Prause, G., Sepp, J. (Ed.), in *Baltic Business and Socio-Economic Development: 3rd International Conference "Baltic Business and Socio-Economic Development, in Tallinn, Estonia, 17–19 June 2007*, Berlin: Berliner Wissenschafts-Verlag, 2008, pp. 649–674.

## V Conference presentations

1. **Irs, R.** (2009), The Possibilities for Appraising Teachers' Performance in the Perspective of Educational Policy and Organizational Culture, *Discussions on Estonian Economic Policy XVII Conference, 1–3 July 2009, Värskä, Estonia.*
2. **Irs, R.** (2009), Towards Effective Educational Politics Through Improving the Performance Measurement System, *Discussions on Estonian Economic Policy XVII Conference, 1–3 July 2009, Värskä, Estonia.*
3. **Irs, R.** (2009), Enhancing the Performance of Estonian Primary Schools via Evaluation, Modern Management Research Conference "Insights Into the Sustainable Growth of Business", 19–21 November, Vilnius, Lithuania.
4. **Irs, R.** (2009), Pay-for-performance in Estonian general educational schools – the situation for further development, Modern Management Research Conference "Insights into the Sustainable Growth of Business", 19–21 November, Vilnius, Lithuania.
5. **Irs, R.** (2009), Performance appraisal and pay-for-performance of the teachers working in Estonian general educational schools (criteria, problems and possibilities, *IV International Conference "Management Theory and Practice: Synergy in Organizations" 3–4 April 2009, Tartu, Estonia.*
6. **Irs, R.** (2009), Performance management in Schools: how to appraise pedagogues' and school performance, The Annual Conference of the Estonian Business Economics Association, *30–31 January 2009, Toila, Estonia.*
7. **Irs, R.** (2008), Enhancing the Efficiency of Estonian Public Administration by the Process of Creating Staff (By the Case of Estonian Ministry of Agriculture and the Estonian Agricultural Registers and Information Board), *Baltic Business and Socio-Economic Development: 3rd International Conference "Baltic Business and Socio-Economic Development, 17–19 June, 2007, Tallinn, Estonia.*

# INTRODUCTION

## Relevance of the topic

In recent years, schools have been impelled to increase performance and quality, financial discipline, strategic behaviour and achievement of its goals. Schools now also need to compete for both pupils and teachers. To achieve this, several private sector management practices such as performance management (incl. performance appraisal and performance-related pay) have been implemented. But it is important to note that the proliferation of private sector managerial practices in the public sector, and in particular the education sector, is a conflict-laden and contradictory process. For example, the dominant view in the literature on public policy and administration is that public and private organisations are so different that *New Public Management* prescriptions, which state that public organisations should import managerial processes and behaviour from the private sector, are inappropriate (Propper and Wilson, 2003). The same criticisms are levelled at educational institutions. However, performance management is still used in both the private and public sectors and is becoming more common in educational institutions because good performance management provides direct benefits to the organisation through a rigorous, focused approach to the achievement of goals (Macaulay and Cook, 1994; Winstanley and Stuart-Smith, 1996; Hartog *et al.*, 2004). In addition, there are examples from the United States, Great Britain and Australia (Storey, 2000; Tomlinson, 2000; Hanley and Nguyen, 2005; Mardsen and Belfield, 2006) of educational institutions taking over private sector management methods such as performance management in order to modernise the teaching profession, make it more attractive, increase the performance orientation of schools and tie the activity and results of teaching directly to school goals.

The Estonian education strategy for 2020 highlights five challenges that the education sector has to face in the near future. Important challenges include raising the position of teachers in society and the reputation of the teaching profession. One tool for achieving these objectives may be changing the salary system making it less tied to workload and occupational level. Teacher salary should consider teacher professional development and the diversity of the role of teachers. Similarly, many feel that the lack of parity between teaching salaries in different local authorities should be removed (Eesti hariduse viis väljakutset..., 2011).

However, the author questions whether general salary increases for teachers would be effective, and further, that schools may not have the financial resources to raise salary levels for all teachers. Therefore, a salary increase for all teachers may not be the solution, but in the context of limited funds, differentiating salary levels on the basis of teacher achievement of school objectives may be more suitable. Similarly, the implementation of a performance-related pay makes it possible to link compensation to a teacher's ability to increase school outcomes and pupil performance.

Therefore, to raise the performance of the Estonian education sector and to ensure that educational institutions are equipped with well-paid, motivated and professional teachers, performance management has been taken as a new course. But although Estonian schools have been given extensive decision-making authority, there is a lack of knowledge coupled with fear and resistance to change. To overcome this, proposals should be made at the government level, and support should be made available to schools.

Therefore, initially, the situation in Estonian general educational schools needs to be mapped to obtain an overview of the current situation and the opinions of pedagogues<sup>1</sup> about the appraisal of the performance of teachers and performance-related pay should be ascertained. Furthermore, opportunities for managing the implementation of performance management need to be examined and guidance and support offered to schools. The present research contributes to the theory of performance management by providing a framework for describing the school performance and evaluating and rewarding performance of teachers. Similarly, the current research provides valuable information for designing a performance appraisal and remuneration system for teachers in Estonian general educational schools.

## **The aim and research tasks**

This dissertation aims to provide proposals for developing a teacher performance appraisal and remuneration aspects of performance management using the example of Estonian general educational schools. As a result of this dissertation, critical activities in designing both performance appraisal and performance-related pay are pointed out and recommendations are made for selecting appropriate criteria. To achieve the aim of the dissertation, the following research tasks were set:

1. Analyse the definition and process of performance management, including performance appraisal and performance-related pay and their characteristics in the education sector.
2. Build up a framework for analysing school performance and how the school management and the activities of teachers influence this?
3. Formulate research propositions about the relationships between school management, the activities of teachers and the opinions of pedagogues about performance appraisal and performance-related pay, teacher performance appraisal and performance-related pay criteria and the relationship between performance-related pay and school performance indicators.

---

<sup>1</sup> The term pedagogues is used here when talking about teachers and headmasters together.

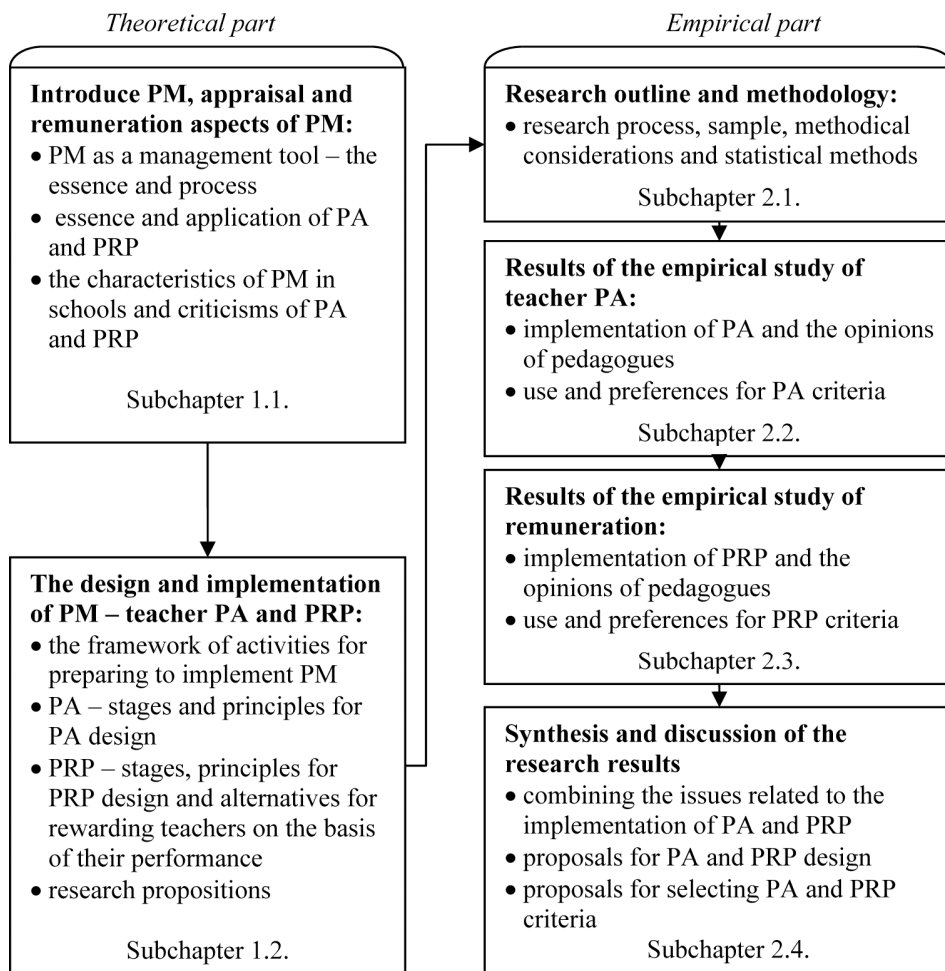
4. Develop a research methodology for exploring teacher performance appraisal and performance-related pay in Estonian general educational schools (including compiling a questionnaire) based on the aforementioned theoretical analysis.
5. Analyse the relationships between school management characteristics and the opinions of pedagogues about performance appraisal and performance-related pay with the aim of ascertaining the managerial aspects that help schools design and implement performance appraisal and performance-related pay.
6. Analyse the relationships between the characteristics of the activities of teachers and the opinions of pedagogues about performance appraisal and performance-related pay and the preferences of pedagogues concerning performance appraisal and performance-related pay criteria with the aim to ascertain which activities should be evaluated as part of performance appraisal and rewarded by performance-related pay.
7. Provide proposals for school headmasters and leaders in education about designing and implementing teacher performance appraisal and performance-related pay in Estonian general educational schools and proposals for selecting teacher performance appraisal and performance-related pay criteria.

The current dissertation concentrates on gathering the opinions of teachers teaching the 9th and 10th grade and the opinions of their headmasters. The study includes only municipal schools – those established by local authorities in Estonia.

## **The structure of the dissertation**

This dissertation is composed of two main parts. An overview of the structure of the dissertation is presented in Figure 1. The first part of the dissertation constitutes the theoretical basis for studying Estonian general educational schools, their performance and teacher performance appraisal and remuneration aspects of performance management that help achieve school objectives. It is comprised of two subchapters. The first subchapter concentrates on performance management. Firstly, it introduces performance management as a management tool, explores its most important components and analyses how different authors and the author of this dissertation define performance management. Secondly, more detailed attention is turned to the appraisal and remuneration aspects of performance management. Subsequently, the system of school evaluation is discussed explaining the evaluation methods used in the education sector (external vs. internal evaluation). In addition, the subchapter explains where teacher performance appraisal is positioned within school performance evalua-

tion and how it is defined by several theoreticians and the author of this dissertation. Performance-related pay is also introduced and analysed in reference to the private sector and the education sector, and the various reasons for rewarding teachers on the basis of their performance are highlighted based on empirical studies.



**Figure 1.** The structure of the dissertation and main arguments

Note: PM – performance management; PA – performance appraisal; PRP – performance-related pay  
Source: compiled by the author

Discussions are also presented of the methodical problems in empirical studies exploring the relationships between teacher salary and school performance. Thirdly, as the dissertation is written based on general educational schools, then the characteristics of the educational process is introduced. Through this, the educational process is discussed and the role of performance appraisal and per-

formance-related pay is explained. This subchapter also presents a model of the key characteristics of school performance by exploring performance management and the educational process together. The model explains how school performance is achieved and is therefore a good framework for developing performance appraisal criteria for evaluating the work of teachers. In this way, the author proposes possible criteria for appraising teacher performance. Finally, criticisms of performance appraisal and performance-related pay are discussed in the light of the education sector.

The second subchapter of the theoretical part concentrates on the design and implementation of performance management and its appraisal and remuneration aspects – teacher performance appraisal and performance-related pay. Firstly, the changes in the education sector that require schools to adopt new management tools such as performance management are explained. Similarly, the recommended principles and the framework for preparing schools for implementing performance management are introduced. Secondly, the recommended stages of performance appraisal development are analysed more specifically. This makes it possible to understand the critical activities in the preparatory stage of performance appraisal and how aspects of the school management and the activities of the teachers relate to creating an accepted performance appraisal system. This subchapter also presents research propositions concerning teacher performance appraisal. Thirdly, the stages for designing a salary system for teachers on the example of performance-related pay are also presented more systematically. During this subchapter the alternatives for developing a remuneration system for rewarding teacher performance are explained, while also pointing out research propositions concerning performance-related pay for teachers.

The second part of the dissertation provides an overview of the empirical study of teacher performance appraisal and remuneration aspects of performance management based on the example of Estonian general educational schools. It consists of four main subchapters. The first subchapter initially presents the research process and sample for exploring school performance management in Estonian general educational schools. Then, the methodological considerations and statistical methods used in the research are detailed. The second subchapter of the empirical part summarises the results of the empirical analysis on performance appraisal. Firstly, the implementation of performance appraisal and its influence on the opinions of pedagogues in Estonian general educational schools are analysed. Secondly, the current use of performance appraisal criteria is discussed in addition to whether they cover teacher performance in a thorough and reasonable manner. This subchapter highlights the results of how the characteristics of the activities of the school management and the teachers relate to their opinions about the performance appraisal system implemented in their school. This subchapter also explores which performance indicators are used to define school performance in Estonian general educational schools and whether the performance appraisal criteria match the performance indicators. In addition author compares the preferences held by head-



masters and teachers when selecting performance appraisal criteria and identify how the characteristics of the activities of teachers relate to opinions held by pedagogues about performance appraisal.

The third subchapter of the empirical part concentrates on summarising the results of the empirical study in terms of remuneration. The influence of the implementation of performance-related pay on opinions held by pedagogues is discovered and valuable information is presented about which school management characteristics influence pedagogues in terms of their opinions about the performance-related pay implemented in their schools. The relationships between performance-related pay and school performance indicators are also reflected in the last point of the third subchapter. An analysis is made of the use of performance-related pay, the preferences of pedagogues in relation to performance-related pay and the relationships between the characteristics of the activities of teachers and the opinions of pedagogues in order to identify criteria that should be considered while designing a performance-related pay system.

The synthesis and discussion of this research is presented in the fourth subchapter of the second part of the dissertation. At first, teacher performance appraisal and performance-related pay as a tool for managing school performance is discussed. Based on this discussion, which combines the issues related to both performance appraisal and performance-related pay, and points out the important shortcomings of appraisal and remuneration within performance management, the proposals for developing teacher performance appraisal and performance-related pay in Estonian general educational schools are presented. The proposals involve recommendations for both performance appraisal and performance-related pay design, and for selecting criteria for evaluating teacher performance and rewarding teachers on the basis of their performance.

## **The originality of the research and its practical merit**

The originality of the present research stems from the fact that it is the first attempt to study teacher performance appraisal and remuneration aspects of performance management in Estonian general educational schools so systematically and to such an extent that it is possible to make generalisations about their implementation in Estonian general educational schools. In addition the research also presents the characteristics of the school management and the teacher activities that are important in the design and implementation of performance management.

This research is part of the project “Performance and the analysis of the drivers that influence it in public schools” initiated in cooperation with the Estonian Ministry of Education and Research and the University of Tartu. Therefore, this study provides valuable input for the ministry to develop and draft new perspectives for education policy in Estonia. The research group involves three teams concentrating on different fields of interest – financial management, quality management and performance management in schools. The

author belonged to the group exploring performance management. Each group was responsible for developing the core of research for their field, and in cooperation the overall framework of the study and questionnaire was compiled (Türk *et al.*, 2011). During the project, the author performed a leading role in developing a framework of key characteristics of school performance that made it possible to determine important performance appraisal and performance-related pay criteria. Similarly, the author conducted data analyses and provided proposals about performance appraisal and remuneration.

In order to highlight the practical merit of the current research, several points can be made:

- Studying school performance helps identifying the school management and teaching activities and objectives that result in better school performance, and can thus focus on improving performance. Therefore, this provides essential input for implementing performance management.
- Information about the current management situation in Estonian schools helps understanding the successes and shortcomings of Estonian general educational schools so the author can map perspectives for raising school performance, and identify the necessary actions for change in the Estonian educational sector. Likewise, this is invaluable information for educational leaders and public sector officials, whose work it is to plan and implement strategy for improving the Estonian education sector.
- Understanding the relationship between school management, teacher activities and the opinions of pedagogues is useful for developing proposals for designing and implementing performance appraisal and performance-related pay in schools. While creating and implementing new management tools, this should be carried out as a collaborative effort, including all stakeholders throughout the process. The opinions of all members of the organisation regarding new management tools are essential for their smooth adoption. Human resource policies, training and organisational development programmes can be adjusted to encourage positive responses and opinions to facilitate the intended changes.
- Information about teachers' opinions helps school headmasters design motivational systems that encourage teachers to better achieve school aims.
- Furthermore, irrespective of the volume of literature and articles written on performance management, the perpetual "reliable criterion problem" and the creation of an appraisal system that will be accepted by the teachers continues to receive considerable attention within performance management literature (Fletcher, 2001). The current research and this dissertation helps to present the preferences of teachers and school headmasters, and the proposals from the author about the teacher performance appraisal criteria that should be used to measure teacher performance. Likewise, the dissertation points out the criteria that are recommended by the author and preferred by respondents from Estonian general educational schools as the basis for rewarding teachers.

- In addition, the current study also highlights proposals about designing and implementing performance appraisal and performance-related pay.
- The knowledge from this research is also useful for other countries that need to deal with such issues – in particular – implementing teacher performance appraisal and performance-related pay. Similarly, due to the fact that the Estonian education system is strongly based on approaches that have proven to be performance-enhancing, the analysis provides an overview and information for those countries that want to restructure and develop their education system. As the analysis of OECD survey results show (OECD, 2008), the organisation of the Estonian education sector is a good example for many countries.

## **Acknowledgements**

Writing this dissertation has been a process that has lasted five years and has been full of hard work, positive moments and certainly many setbacks. I cannot possibly mention all the kind and helpful people who have assisted me during this period. First I wish to express my sincerest gratitude to Professor Kulno Türk, my supervisor. He has helped me with advice and comments, and thanks to him I had this great opportunity to participate in the project “Performance and the analysis of the drivers that influence it in public schools” and help make things happen in the Estonian education sector.

I would like to give my special thanks to the officials from the Estonian Ministry of Education and Research and the research group at the University of Tartu participating in the project. Likewise I am very grateful to all the headmasters and teachers who participated in this research. Because of you, the Estonian education sector will be better in the future.

This thesis owes a lot to my co-authors, Anne Aidla, Tuuli (Reisberg) Pärenson, Kristi Ploom and Maaja Vadi. The cooperation with my co-authors has been educational and pleasant.

I am also very grateful to Kaia Philips and Kurmet Kivipõld for devoting their valuable time to reviewing and commenting on the earlier versions of my dissertation. Their comments have enabled me to see the work from another perspective, which allowed me to improve it much more.

Finally, I am sincerely grateful to my family; without their support I could not have finished this dissertation. I would like to thank my partner and best friend Tanel for all his love, patience, faith and understanding. He has been most supportive throughout and kept me going whenever I wanted to give up. Also, I want to express special thanks to my parents Anne and Rein who have always been there for me and to my brother Ragnar who can always make me laugh. Thank you for being there for me!

I am fully responsible for all the inaccuracies still found in this dissertation.

# **I. THEORETICAL FOUNDATIONS OF TEACHER PERFORMANCE APPRAISAL AND REMUNERATION ASPECTS OF PERFORMANCE MANAGEMENT IN SCHOOLS**

## **I.1. Defining performance management and appraisal and remuneration aspects of performance management**

### **I.1.1. Performance management as a management tool**

The following subchapter presents the discussion of the definition of performance management by different authors. In addition, it provides the author's definition of performance management in the context of this dissertation. Performance management is described as a management tool for improving organisational performance through concentrating on the achievement of organisational objectives. The need for performance management stems from the rise of *New Public Management* in the public sector. As Kettl and Kelman (2008) denote, performance management both preceded and outlived New Public Management and continues to be viewed as a central concept in the future of governance. Reforms epitomised by the New Public Management movement have led to major changes in the organisation and management of the public sector based around the notion of competitive markets and the adoption of private sector management practices.

Changes in the public sector have affected the education sector as well. Therefore, in addition to public organisations, educational institutions became engaged in restructuring their organisation and improving management processes in order to boost organisational performance (Walker *et al.*, 2010). Performance management is used to increase performance and motivate employees in the public and education sector. Performance management is believed to be beneficial for schools as it is helping both headmasters and teachers understand the most relevant priorities and objectives of school development. However, there are two major benefits of implementing performance management for schools (DfEE, 2000):

- 1) First, the pupils will benefit because, with encouragement, support and high expectations, their teachers will have a more sharply focused picture of what their pupils can achieve.
- 2) Second, the teachers will benefit. Teachers have the right to expect that their performance will be regularly appraised and that they will have a proper opportunity for professional discussion with their team leader about their work and their professional development.

Despite of the enormous growth of interest in performance management, a precise definition of the concept is elusive. The confusion in using the term "performance management" has also been noted in research conducted in the United Kingdom, where many organisations simply equate performance management

with goal setting or with appraisal or with performance-related pay (Fletcher and Williams, 1996, Armstrong, 2006). Such an approach is one-sided and dangerous because it is likely to substantially reduce the effectiveness of performance management. To illustrate the variety of definitions of performance management as a management tool, the author of this dissertation has highlighted examples of how several authors have defined it in this sense (see Appendix 1).

These examples indicate how widely the definition of performance management varies. Since performance management is difficult to define, authors often describe it on the basis of its essential processes. However, some shifts in the definition of performance management can be recognised through careful analysis of the development of the concept. At the beginning of the 1990s, the term performance management was quite narrow, indicating an individuals' effort in achieving organisational performance. A small change may be noted in the definition presented by Winstanley and Stuart-Smith, who described performance management through its objectives, which is a commonly used term in discussions of performance management. They also emphasise the role of evaluation in achieving objectives. A broader view of performance management can be seen in the definitions posited at the beginning of 2000. Armstrong concludes that in addition to individual performance, performance management is also designed to improve organisational and team performance. In addition, Armstrong emphasised the role of managers in improving overall performance. Starting from 2000, the strategic nature of performance management is highlighted more often. Mwita (2000) defines performance management as a means to improve organisational performance with a view to achieving the strategic aims of the organisation. Smith, Goddard and Lohmann *et al.* (2004) underline that performance management should be aligned with the strategy of the organisation. Therefore, performance management is strategic by nature. However, Dransfield (2000), Heinrich (2002), Smith and Goddard (2002), and Hartog (2004) also point out the important role of performance-related pay. This is seen as an important instrument designed to encourage appropriate organisational responses to performance information, and so, an important tool for achieving better performance.

Another interesting pattern can be noticed while exploring recent articles related to performance management. New literature on the topic of performance management has begun to concentrate more on how performance management could increase the performance of public sector institutions. Special attention is focusing on the creation of a performance appraisal system in the public sector because the goals of the public sector are not always quantitative and measurable in money terms.

This focus on the performance appraisal issue can be seen in the definitions by Kettl and Kelman (2008), Heinrich and Marschke (2009), Krishnapillai (2009), Nunn *et al.* (2009) and Walker *et al.* (2010). Dransfield (2000), Krishnapillai (2009), Nunn *et al.* (2009) and Walker *et al.* (2010) also put the focus of the definition of performance management on goal setting. However,

Krishnapillai (2009) emphasises the strategic nature of performance management, indicating that the development of a performance management framework supports identifying and defining cause-and-effect relationships between organisational actions and outcomes.

However, Soss, Fording and Schram (2009) enrich the definition of performance management on the basis of its disciplinary function. They emphasise that the disciplinary function of performance management does not only involve the allocation of penalties for poor performance, but also the creation of self-regulating subjects who, under conditions of apparent autonomy, conduct themselves in ways that are consonant with prevailing institutions, values and interests.

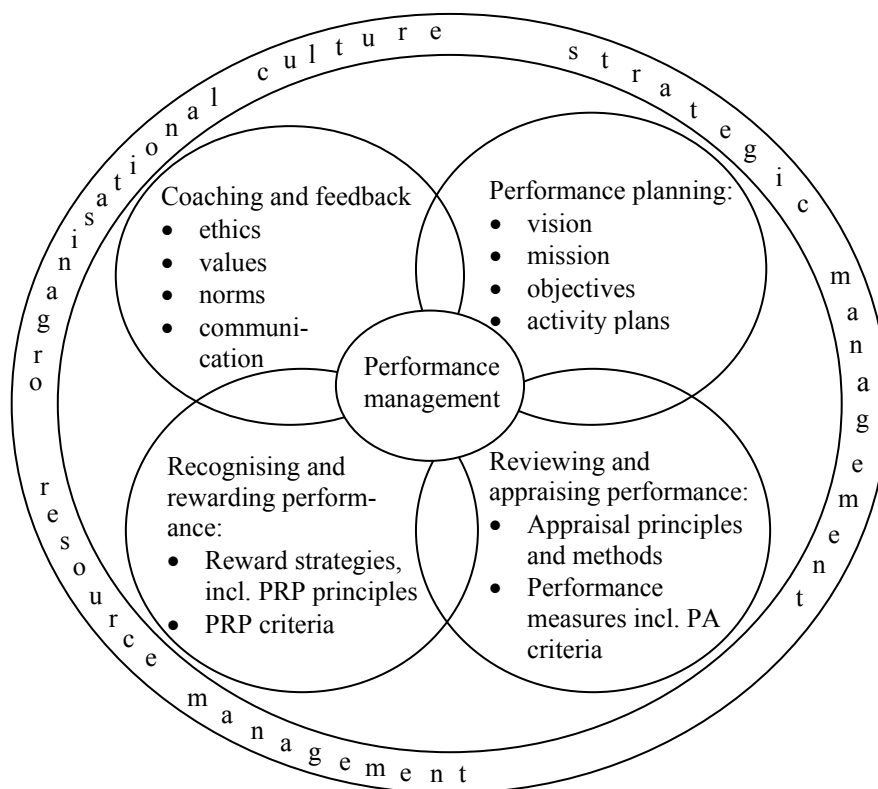
The emphasis of the human factor in implementing performance management can be recognised in the definition by Mone *et al.* (2011). They state that performance management can be conceptualised as the overarching framework for guiding managers in their efforts to increase engagement in their organisations. They emphasise the role of feedback and recognition, employee development and building a climate of trust and empowerment while implementing performance management.

However, in addition to analysing the definition of performance management over time, an interesting pattern can be seen when analysing the definitions with respect to their focus. For example, the definition of performance management in the 1990s was seen more in terms of the individual. Rogers (1990) points out that performance management provides a link between each individual and the overall strategy of the organisation. Similarly, Macaulay and Cook (1994) emphasise a focus on employee performance and describe a very employee centred view of performance management. Mwita (2002) and Lohman *et al.* (2004) on the other hand have a more organisation centred view compared to the aforementioned authors, defining performance management as an approach for achieving organisational objectives. Instead of highlighting how to achieve organisational performance, the authors concentrate on the mentality of performance management.

Several authors have defined performance management with the respect to the process or components of the process (Winstanley and Stuart-Smith, 1996; Armstrong, 2000; Dransfield, 2000; Heinrich, 2002; Smith and Goddard, 2002; Hartog, 1994; Kettl and Kelman, 2008; Soss *et al.*, 2009; Heinrich and Marschke, 2009; Krishnapillai, 2009; Nunn *et al.*, 2009; Walker *et al.*, 2010; Mone *et al.*, 2011), which makes it possible to understand how to build up a proper performance management system in schools. However, understanding the components of performance management also help understand what aspects of school management should be taken into consideration.

Performance management is truly a rather integrated and continuous process of improving organisational performance to achieve strategic organisational aims and promote mission and values. A well-developed performance management system is said to incorporate a statement outlining the organisation's values, a statement of the organisation's objectives, individual objectives which

are linked to the organisation's objectives, regular performance reviews throughout the year (performance measurement, including performance appraisal), performance-related pay, and finally, training and counselling (Dransfield, 2000). The aforementioned aspects can be divided into the four most important components of performance management (see also Figure 2): 1) performance planning; 2) reviewing and appraising performance; 3) recognising and rewarding performance; and 4) coaching and feedback.



**Figure 2.** The components of performance management and connections with strategic, resource management and organisational culture

Source: compiled by the author based on Macaulay and Cook, 1994; Dransfield, 2000; Smith and Goddard, 2002; Holbeche, 2005; Alberta Education, 2005

Therefore, while discussing performance management, strategic management (Wooldridge and Floyd, 1990; Miller and Cardinal, 1994), resource management (Hedges *et al.*, 1994) and organisational culture (Delaney and Huselid, 1996; Becker and Gerhart, 1996; Schneider, 2000; Harris *et al.*, 2003) should also be considered because they are related to developing school performance via creating performance management in schools.

While creating a performance management system, an organisation must determine its strengths and need for development, which makes it possible to set a general strategic philosophy – vision, mission and objectives. Determining a school’s strategic philosophy is part of the school’s strategic management. Strategic management, which has primarily been developed in the private sector, can help schools anticipate and respond effectively to dramatically changing environments (Bryson and Roering, 1987; Kriemadis, 1997). The education sector has begun to recognise that strategic planning is necessary in order to maintain its own responsiveness to a rapidly changing environment, and to formulate proactive responses that will enhance the educational processes used (Saker and Speed, 1996; Kotler and Murphy, 1981). Therefore, strategic management is seen as an important variable in creating value in terms of school performance. In the context of performance management, strategic management is essential in defining school outcomes and the most important objectives. A school performance management system is founded upon these defined outcomes (Kloot and Martin, 2000; Walker *et al.*, 2010).

Specific activity plans for schools are set based on the vision, mission and objectives defined during strategic management. However, while developing the activity plans, clarifying individual responsibilities and accountabilities is essential. That is relevant in the context of reviewing and appraising performance, where both organisational and individual performance need to be evaluated (Smith and Goddard, 2002). During the process of reviewing and appraising, the achievement of the objectives set in the strategic plans is ascertained, and therefore, the development of performance appraisal criteria is central.

The third important component of performance management involves rewarding employees for achieved objectives. During this stage, rewarding strategies and performance-related pay criteria are developed. However, as creating a reward policy involves allocating monetary resources then this is also linked to school resource management. Schools in OECD countries, including Estonian general educational schools, are free to manage their own resources (OECD, 2008). This means that each school has its own budget and the school headmaster is responsible for administering the budget rationally and rightfully. Because of local empowerment, in which responsibilities are transferred to an intermediate authority between the central (or state) government and the schools, such as local authorities in Estonia, the local authorities have additional power for allocating financial resources, and the schools may see this as a restriction.

However competition between schools and financial constraints has motivated schools to improve their effectiveness and turn more attention to managing resources (Michael, 1990; Hanushek and Rivkin, 2007). The pathways of indirect effects indicated in the study by Caldwell (1998) are particularly noteworthy here – they indicate planning and resource allocation benefits, mediated in respect to their effect on curriculum and learning benefits through personnel and professional benefits and confidence in attaining school sustainability. Expressed another way, realising the expected benefits of better resource



management, a clearer sense of direction, increased accountability and responsibility, greater financial and administrative flexibility, and improved long-term planning, will have no direct effect on curriculum and learning benefits but will have an indirect effect on the extent of their impact on personnel and professional benefits, which in turn have a direct effect on curriculum and learning benefits. In addition, it appears that the non-availability of necessary resources in many schools may not necessarily be due to inadequate reserves, but to inefficient management of available resources (Ikoya, 2008). Therefore, good resource management is important in creating reward strategies. However, one of the most critical issues in developing a good reward system is the selection of performance-related pay criteria.

In addition to the aforementioned, Mone *et al.* (2011) points out that during the performance management process, employees should be provided with ongoing feedback and recognition, and managers have the responsibility to create a climate of trust and empowerment. As people are, ultimately, the school's only source of competitive advantage, it is essential to manage employees in a manner that is aligned with the corporate goals of the organisation (Brennan *et al.*, 2003). The findings of the study by Carmeli and Tishler (2004) indicate that intangible elements of the organisation have a significant effect on organisational performance. They highlighted that managerial capabilities, human capital, perceived organisational reputation, internal auditing, labour relations, and organisational culture and all the interactions among these were found to be important in explaining variations in the performance of local authorities. In addition, high performance is proposed to positively affect employee commitment, trust and motivation. Employees will be motivated by personal as well as organisational success. For example, performance affects commitment as much as vice versa. Empirical support for such processes is available from several studies (Locke and Latham, 2002).

Thus in this context, organisational culture is essential as it offers a shared system of meanings, which forms the basis of communication and understanding (Martins and Terblanche, 2003). Therefore, organisational culture seems to be a critical factor in the success of any organisation. It is said that the organisation can have the most superb strategy, and generous financial resources, but if its culture is not aligned with and supportive of that strategy, the strategy will either stall or fail (Schneider, 2000). Studies of school performance suggest that a collaborative culture within a school will improve the quality of teaching, and emphasise the importance of the openness to change, and therefore, induce greater effort (Cheng, 1993; Gaziel, 1997; Maslowski, 2001; Aidla, 2009). However, it is essential to note that organisational culture plays an important role in performance management because organisational culture plays a remarkable role in the organisation's mission and goal statements (Martins and Terblanche, 2003). Organisational culture fills the gap between formally announced policies and the actual behaviour of an organisation, and is therefore an indicator that keeps strategic plans on track.

The author of this dissertation concludes that although there are differences in defining the term “performance management” (e.g. concentration on individual achievement vs. organisational achievement; task orientation vs. orientation on relations), it primarily refers to managing the organisation on the basis of its strategic aims. Good performance management should provide direct benefits for the organisation through a focused approach to the achievement of set objectives. Therefore, the aforementioned definitions imply the management by objectives philosophy put forth by Drucker (1976). Drucker emphasises the evaluation and the comparison of the employee’s actual performance with the standards set in the organisation. During management by objectives, the managers of an organisation jointly identify the common goals, define each individual’s major areas of responsibility in terms of the results expected of him/her, and use these measures as guides for operating the unit and assessing the contribution of each of its members (Odiorne, 1976). However, it is worth mentioning that managing by objectives has resulted in severe criticisms. For example, Deming (2000) indicated that setting the organisation’s objectives will encourage resources to meet those objectives through whatever means necessary, which usually results in poor quality. The management by objectives concept emphasises that objective criteria and performance standards must be clearly defined and they should be measurable. However, McConkie (1979) points out that rigid mathematical formulas have frequently proven disappointing because too many managers tend to assume that since the mathematical standard has been set, they need not insert their own judgements and opinions into the management process. In so behaving, they remove themselves from their managerial responsibilities. These mathematical formulas, the argument goes, make no allowance for the difficulty of the goals being pursued. To go even further, Deming (2000) encouraged managers to abandon objectives in favour of leadership. This means that leaders understand systems, and therefore, they are the ones who should manage employees according appropriate solutions, not objectives and incentives.

However, despite the criticisms, research in the field of performance management concentrates mainly on the concept by Drucker, which emphasises the role of setting measurable objectives and managing the organisation in order to achieve those goals. The main reason behind this is that during research work, restrictions should be made in order to conduct statistical analysis. Certainly, concentrating exclusively on measurable objectives may be harmful for organisations, but on the other hand, managers need to find a balance between managing tasks and managing relations. Kaplan and Norton (1996) argue if you can’t measure it, you can’t manage it. Therefore, in addition to measurable objectives, school managers should deal with the human aspect of management by, for example, developing the organisational culture.

The author agrees with the definition from Heinrich and Marschke (2009), who emphasise the importance of appraisal and incentive in achieving organisational objectives. Appraisal and incentive are essential in the context of performance management because they are important tools in directing employees

towards executing the key activities that create success for an organisation. Therefore, the author defines performance management as a tool for achieving organisational objectives through monitoring performance and goal achievement and stimulating performance.

However, while school performance can be analysed at the strategic, operational and individual level (Türk *et al.*, 2011), the current dissertation concentrates on the individual level of performance management. The individual level of school performance management concentrates on the key role of teachers, whose main working objective is to bring up, teach and develop pupils. In this context, building up an accepted and motivating teacher performance appraisal and remuneration system is central. Therefore, the author of this dissertation concentrates on two important aspects of performance management – teacher performance appraisal and performance-related pay, and does this using the example of Estonian general educational schools. Concentrating on the individual level is essential as most school plans in the Estonian education sector are only formal and are not used to facilitate their performance (Irs and Ploom, 2009). Teacher performance appraisal and rewarding systems, on the other hand, do support the achievement of strategic (main development directions set in school development plans) and operational (sub objectives set in activity plans) objectives (Türk *et al.*, 2011). Therefore, building up a proper teacher performance appraisal and reward system makes it possible to create a system that motivates teachers to achieve the aims set in school strategic plans.

### **1.1.2. Performance appraisal and performance-related pay**

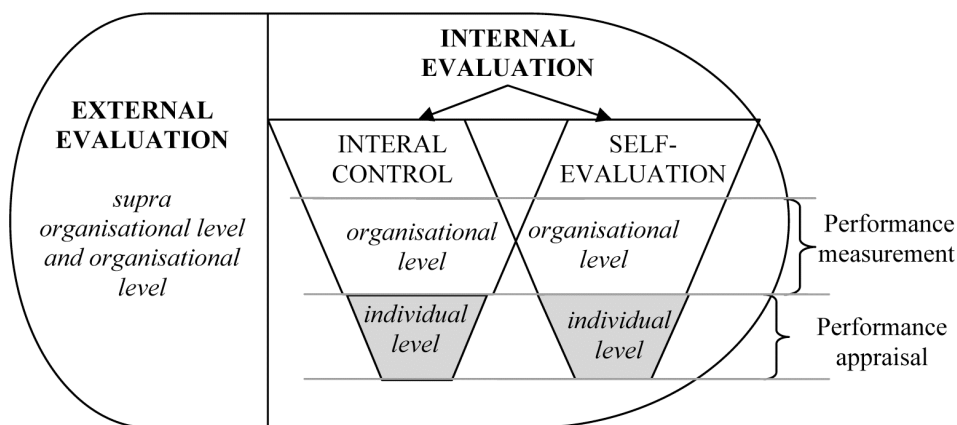
The following subchapter explores the concept of school evaluation and ascertains the position of teacher performance appraisal within the evaluation system. Similarly, the definition of performance-related pay is presented and discussed.

The idea behind evaluation is that the performance and activities of the organisation and its employees are appraised in order to diagnose the state of the organisation and its success in achieving objectives, and to change and direct these as necessary. Evaluation allows feedback about the success of decisions made, and if used appropriately, it has the potential to support better decision-making (Lancer Julnes and Holzner, 2001). However, it also allows feedback about employee contributions to organisational goals, behaviour and results (De Andre's *et al.*, 2010). Managers may use performance evaluation as a performance improvement tool in various ways (Kettl and Kelman, 2007):

- 1) They can motivate individual employees to work harder and more effectively as challenging goals encourage better performance.
- 2) Performance evaluation can provide feedback about an organisation's performance over time or in comparison with other organisations. This can, however, indicate a need for organisational learning and areas that need more attention.

3) Appraisal criteria can focus employees on the few things the managers wish them to attend to.

In the context of this dissertation, it is essential to understand evaluation in the education sector, and where teacher performance appraisal is placed as a component of school evaluation. However, the central aim in appraising the performance of schools and teachers is to raise the quality of education, the scholarliness of the citizenry and to supply the education system with qualified teachers (Darling-Hammond *et al.*, 1983). Figure 3 presents an overview of the types of school evaluation implemented to capture school performance.



**Figure 3.** Types of school performance evaluation and placement of performance appraisal in the context of internal evaluation

Note: the individual level of internal evaluation is marked with a grey background

Source: compiled by the author based on Nikkanen and Lyytinen, 2005; Pettai and Lilleste, 2008

For many years and in many countries, school evaluation has been tantamount to external evaluation. External school evaluation aims to find out if schools are fulfilling their duties (Nevo, 2001). External evaluation is performed by the ministry of education or some other higher institution's professional evaluators or inspectors, who are not the employees of the particular school. At the level of school external evaluation, the external evaluators gather performance data (the values of key performance indicators or external evaluation criteria) that are determined by the Ministry of Education and Research. Based on the Ministry's order<sup>2</sup> the performance indicators measured through external evaluation can be categorised into the following groups:

<sup>2</sup> Order No 1031 of the Minister of Education and Research.

- 1) key performance indicators related to pupils (academic performance<sup>3</sup>, the percentage of pupils continuing studies at the next school level, the percentage of absenteeism, the percentage of pupils participating in school support systems etc.);
- 2) key performance indicators related to human resources (presence of teachers with required qualification, the average volume of continuing education courses for teachers; the structure of teachers with the respect to age and gender; the percentage of teachers that have quit) and;
- 3) key performance indicators related to schools in general (ratio of pupils to teachers; the fulfilment of classes; the number of computers per teachers, the number of computers per pupils).

Therefore, external evaluation gives the government useful information at the supra organisational level facilitating policy decisions for improving the quality of education. In addition, external evaluation supports schools and its headmasters with feedback on the school's activity and performance. Likewise, it is hoped that such external evaluations would motivate teachers and school headmasters to work harder to improve their performance (Õppeasutuse sisehindamine..., 2008). However, it is important to note that the abovementioned external evaluation criteria give headmasters information about school performance at the organisational level not the individual level (teacher performance), and therefore, it does not allow them to identify individual aspects that need to be taken into consideration in order to raise school performance. Therefore, schools have started to analyse their activities more systematically. More attention is now given to internal evaluation, which is implemented alongside external evaluation. However, it is important to emphasise the need to find synergy between external and internal evaluation. Nowadays, external evaluation is seen as more of a support device, allowing schools to view their performance through an external perspective. An external evaluation increases the objectivity of the evaluation because the indicators used are easy to measure, necessary information for making comparisons is gained, and it is possible to evaluate from a distance those work processes that are highly influenced by social relationships and cannot be objectively evaluated by the members of the organisation themselves. Therefore, an external evaluation provides additional information, helping schools to see themselves from a different perspective, and broadening and deepening a school's self-knowledge (Swaffield and MacBeath, 2005).

A school's inclination to engage in internal evaluation emanates from the increasing and intense demands for change, and the new competition for pupils (Glasman *et al.*, 2002). Internal evaluation can be defined as a continuous and systematic analysis of learning processes, as well as school management and

---

<sup>3</sup> Academic performance is an overall description of pupil results in final examinations, national examinations, running grades, and results in regional and national tests.

performance evaluation for making strategic decisions about managing the development of the pupils and school. Through internal evaluation, school strengths and weaknesses are determined, and based on the results, development and action plans are compiled. As Towler and Broadfoot (1992) point out, reflection and evaluation can encourage an understanding of what is expected, improve motivation, lead to pride in positive achievement and offer a realistic appraisal of weaknesses. Internal evaluation should guarantee the sustainable development of a school taking into consideration the peculiarities of the school that are not captured by external evaluation.

Internal evaluation of schools consists of two components: internal control and self-evaluation, which are integrated into the internal evaluation system (see Figure 3, p. 28). The main purpose of internal control is to avoid the main risks, while self-evaluation deals with finding ways to improve performance. A broader difference between these components of internal evaluation is that internal control is directed towards the past while self-evaluation looks to the future. Internal control deals with limited problems that occurred in the past and were performed by the school management. Self-evaluation, on the other hand, is implemented by the teachers themselves and also involves pupils and parents giving feedback about the teacher's performance. The Estonian Ministry of Education and Research has developed a framework for internal school evaluation. The information gathered during internal evaluation may be categorised into the following levels (Õppeasutuse sisehindamine..., 2008):

- 1) level of the school (e.g. information about the school development plan, curricula, action plans, tangible and intangible resources, the analysis of systems performed within the school);
- 2) level of human resources (statistics involved with human resources, satisfaction inquiries, development interviews, professional development, class observations etc.);
- 3) level of interest groups (satisfaction inquiries among parents, development interviews, feedback from alumni, employers, representatives of the previous and next school level);
- 4) level of pupils (statistics related to pupils, academic performance, the results of pupil development analysis, satisfaction inquiries, support systems, extra-curricular activities and the consideration of pupils with special educational needs).

Although there are several concurrencies between external and internal evaluation criteria, the difference is in terms of what level these performance indicators are being analysed. While external evaluation concentrates on the education system in general, during internal evaluation, schools evaluate the performance indicators in light of their peculiarities and context. Therefore, internal evaluation supports external evaluation with additional qualitative information. However, the concurrencies of external and internal evaluation criteria may lead to confusion in schools about internal and external evaluation. Therefore, as

external indicators are easier to evaluate, schools may tend to concentrate on managing based on external evaluation.

The previous discussion makes it possible to conclude that internal evaluation has both an organisational and an individual level to take into consideration. That means that internal evaluation concentrates on measuring individual job performance, but it contributes to organisational performance as well. However, when talking about internal evaluation that concentrates on appraising the performance at the organisational level, to be more precise evaluating the achievement of strategic and operational objectives in schools (Türk *et al.*, 2011), the term *performance measurement* should be used (see also Figure 3, p. 28). As improving school performance through individual effort is central to this dissertation, the author concentrates on the individual level of internal evaluation, or analysing the individual performance of teachers in achieving school objectives – *performance appraisal*.

The term “performance appraisal” has broadened substantially in recent years (see Table 1). It is possible to conclude that performance appraisal used to have a rather elementary and raw control function in which employee performances were given quantitative estimations by their superiors. Thus, traditional performance appraisal is associated with a top-down model of appraisal by a supervisor.

**Table 1.** Performance appraisal and its development by several authors, publication year and focus of the definition

Focus	Author, year	Performance appraisal
Control centred views of definition	Oberg, 1972	PA helps or prods <i>supervisors</i> to observe their <i>subordinates</i> more closely and to do a better <i>coaching job</i> .
	Ilgen and Favero, 1985	PA process involves the <i>interaction</i> of a <i>rater</i> and a <i>ratee</i> in a work setting. This interaction is followed by a <i>judgement process</i> in which the rater uses whatever information he or she has about the ratee to evaluate the performance-related attributes of the ratee.
	Benedict and Levine, 1988	The communication of PA information to <i>subordinates</i> is an important function of organisational <i>control</i> systems. As organisational control information, <i>feedback</i> is an important factor in the <i>enhancement</i> of employee performance and the organisation’s overall <i>effectiveness</i> .
	Armstrong, 2006	PA can be defined as the formal assessment and rating of individuals by their managers at, usually, an annual review meeting.

Focus	Author, year	Performance appraisal
Development centred views of definition	Dransfield, 2000	PA is a process of <i>systematically</i> evaluating <i>past job</i> performance and providing <i>feedback</i> on which performance <i>adjustments</i> can be made. PA aims to <i>justify the rewards</i> given to individuals and/or groups, discriminating between high and low performance.
Development centred views of definition	Fletcher, 2001	PA has become a general heading for a <i>variety of activities</i> through which organisations seek to <i>assess</i> employees and <i>develop</i> their competence, <i>enhance performance</i> and distribute <i>rewards</i> . It sometimes becomes a part of a wider approach to integrating human resource <i>strategies</i> known as <i>performance management</i> .
	Lancer Julnes and Holzner, 2001	PA is intended as a means to make more <i>informed decisions</i> .
	Davis <i>et al.</i> , 2002	PA is an important catalyst for <i>organisational learning</i> and <i>school improvement</i> when it is linked to broader conceptions of <i>leadership</i> .
	Roberts, 2003	PA is a controversial management tool searching for answers to ubiquitous problems in <i>system design</i> and <i>administration</i> . PA <i>participation</i> is a process that can mitigate many of the dysfunctions of traditional PA systems.
	De Andre's <i>et al.</i> , 2010	PA is a <i>formal system of assessment</i> used by companies for estimating employee contributions to <i>organisational goals, behaviour</i> and <i>results</i> during a period of time.
	Campbell and Lee, 2011	<i>Self-evaluation</i> may be used as additional data for PA. Self-evaluations and other sources (e.g. supervisory ratings) can be combined to increase the overall <i>reliability</i> of the evaluation process.

Note: PA – performance appraisal

Source: compiled by the author

The definitions of performance appraisal from the earlier literature aptly describe the control centred view of defining performance appraisal (Oberg, 1972; Ilgen and Favero, 1985; Benedict and Levine, 1988).

A narrower approach to defining performance appraisal can also be seen in more recent literature. For example Armstrong (2006) points out that performance appraisal has been operated as a top-down and largely bureaucratic system owned by the human resource department rather than by managers. Thus, Armstrong sees performance appraisal rather as a means of exercising managerial control.



However, in the modern world of empowerment and team working in organisations, the term performance appraisal is defined more broadly (Dransfield, 2000). Nowadays, performance appraisal has a more development-centred definition and includes several activities by means of which the organisation tries to evaluate, train, develop and promote its employees, as well as improve the organisations effectiveness. Rewards are also given for efficient work (Dransfield, 2000; Fletcher, 2001).

A performance appraisal system helps identify the organisation's key areas of activity and problems, and assists the organisation in updating strategic objectives and informs tactical decisions for achieving these objectives. Furthermore, a performance appraisal can motivate teachers to work harder and better as challenging goals encourage better performance, it can provide feedback about an organisation's performance over time or in comparison with other organisations and performance appraisal measures can focus employees on those things managers want them to attend to (Kettl and Kelman, 2007). Roberts (2003) affirms this, emphasising performance appraisal's role in system design and administration. However, Roberts (2003) denotes that an effective and accepted performance appraisal system is created only with the participation of all interest groups involved.

However, it is important to note that the aim of evaluation has shifted towards self-evaluation, development and motivation, and is more focused on the present and the future rather than the past (Pettai and Lilleste, 2008; Campbell and Lee, 2011). Therefore, performance appraisal does not only involve the judgement of past results (Dransfield, 2000), but concentrates on developing employee performance. As supervisory ratings will reflect a more true score with less errors than self-evaluations because supervisory ratings are not self-generated, then in the interests of increasing the overall reliability of appraisal, it is recommended that a combination of supervisors' and self-evaluation results be used (Campbell and Lee, 2011).

While much of the literature in human resource management sees performance appraisal as a top-down and narrow control method focused on appraising the past performance of employees (Armstrong, 2006; Millmore *et al.*, 2007), the broader definition of performance appraisal is most apparent in the context of the education sector. For example, teacher performance appraisal in the Canadian education sector is designed to promote teacher development, provide meaningful appraisals of teachers' performance that encourage professional learning and growth, identify opportunities for additional support where required and provide a measure of accountability to the public (Ontario, 2010). Davis *et al.* (2002) define teacher performance appraisal through its ability to create organisational learning, which would also result in raising school performance. Evaluation raises the awareness and responsibility of teachers and increases self-respect, which also encourages teachers to develop themselves and to creatively apply their competences (Davis *et al.*, 2002). The teacher performance appraisal established in the United States is also development-centred, as

the teacher appraisal process ends with the creation of an individual development plan for each teacher (NCTQ, 2008).

However, to conclude this discussion of teacher performance appraisal, the author emphasises that in order to achieve overall school objectives, the individual performance of teachers should be managed in order to create value at the operational and strategic level of school management. Thus, the author defines teacher performance appraisal as a tool for monitoring the individual performance of teachers in achieving school objectives.

This subchapter will now turn to explore performance-related pay. Performance-related pay is a type of compensation in which employees are paid according to their performance (Jacobson, 1992; Lazear, 2001; Chamberlin *et al.*, 2004; Hanley and Nguyen, 2005; Marsden and Belfield, 2006; Ingvarson *et al.*, 2007; Neal, 2011). It is a part of a compensation system based on bonuses and incentive pay for high work performance (see Table 2).

**Table 2.** Performance-related pay as defined by several authors with year of publication year and whether it applies to the private sector or education sector

Sector	Author, year	Performance-related pay
PRP in private sector	Dransfield, 2000	PRP is based on <i>management by objectives</i> . Key result areas of the job, <i>clear standards</i> of performance and <i>target levels</i> of competence and regular objective <i>reviews</i> of performance and competence must be agreed upon.
	Chamberlin <i>et al.</i> , 2004	PRP is a way in which an organisation <i>rewards</i> its employees according to its perception of their <i>individual</i> merit.
	Marsden, 2004	PRP is a process where <i>goal setting</i> and <i>evaluation</i> by line managers plays a key role.
	Hanley and Nguyen, 2005	The logic behind PRP is to spread salaries according to <i>performance</i> linked to an organisation's <i>objectives</i> .
PRP in educational sector	Jacobson, 1992	Under a "pure" performance-related pay system, teacher salary differentials would be determined exclusively on the basis of differences in their <i>performance</i> .
	Lazear, 2001	PRP will result in low pay for the poorer teachers and high pay for the better ones, which might encourage an <i>increase in performance</i> and the right pattern of <i>retention</i> and <i>turnover</i> .
	Marsden and Belfield, 2006	PRP is a type of compensation that allows payment on the basis of teachers' results.
	Ingvarson <i>et al.</i> , 2007	PRP is a compensation system that answers the question of how much teachers' pay is based on the <i>quality of their professional performance</i> within current <i>awards</i> or <i>agreements</i> .
	Neal, 2011	PRP is a compensation method, where incentive payments are linked to some <i>measure</i> of educator performance.

Note: PRP – performance-related pay

Source: compiled by the author

Performance-related pay schemes use performance and/or competence as criteria for deciding the size of increments, and therefore, also the rate of progress through a salary band (Dransfield, 2000). A reward system implies the use of evaluation, which enables measuring the performance of activities. Evaluating performance is a common way of connecting an individual's performance to performance-related pay. Performance-related pay encompasses the notion of "payment by result", involving a financial reward based on the assessment of individual performance (Hanley and Nguyen, 2005; Neal 2011). However, the basic concept underlying performance-related pay is that employees perform better when their compensation is more tightly linked to effort or output, and organisational performance will improve with employee incentives more closely aligned with organisational goals (Heinrich and Marschke, 2009). As in performance management, and as Dransfield (2000) and Marsden (2004) point out, performance-related pay is based on a management by objectives philosophy, where the key outcomes of a job – clear standards of performance and target levels of competence and regular objective reviews of performance and competence – must be agreed upon. However, as in performance management, it is essential to keep in mind that it is the manager's task to observe that those objectives are not simply achieved by whatever means necessary, but that a reasonable organisational culture and reward system is designed that motivates development and enhances performance.

After analysing the definitions of performance-related pay in the context of the private sector and the education sector, the author notes that there are no remarkable differences. However, compared to the private sector, there are matters that need to be taken into consideration when developing performance-related pay in the education sector. For example, in the case of private sector organisations, output is perfectly observable because it usually has a monetary value. Output that can be evaluated using a monetary value provides the perfect indicator of an employee's effort, hence it is easy to pay an individual based on the value of his output (Burgess and Ratto, 2003). When the output also depends on some random component, as in the education sector (the influence of family, peers, socio-demographic background, the co-operational effort of teachers etc.) (Hanushek, 1997), the headmaster is not able to infer the teacher's effort precisely. Therefore, in the case of the education sector, in addition to concentrating on rewarding individual performance, more attention should be turned to rewarding teachers based on group effort as well.

While implementing performance management in the education sector, it is important to consider the principles behind the reasons for implementing performance-related pay in the education sector. There are numerous advantages of implementing performance-related pay in the education sector. However, its primary purpose in any organisation is to recruit, retain and motivate workforce. Nevertheless, the effect of a teacher's salary is twofold, as teacher salary levels may influence pupil outcomes either through the recruitment and retention of more capable teachers and/or because higher wages induce greater effort (Burgess *et al.*, 2001; Armstrong, 2001; Lazear, 2001, 2003; Chamberlin *et al.*,

2004; Milanowski, 2007). Certainly, in order to induce greater effort, teachers should be motivated by a performance-related pay system, which allows extra monetary incentives for teachers who perform better in achieving the school's key tasks or goals. There is a lot of evidence about the relationship between performance-related pay and increased work performance in the private sector (Lazear, 2000; Piekkola, 2005; Gielen *et al.*, 2010). However, there is considerably less evidence of this in the public sector. As the current dissertation concentrates on the education sector, the evidence of a relationship between monetary incentives and teacher performance is discussed further. The author of this dissertation analysed previous studies to evaluate the role of teachers' salary in improving school performance. To obtain valuable information, the author analysed both studies of the impact of raising the overall salary level and implementing a performance-related pay on the performance of educational institutions (see Appendix 2). In conclusion, there are many studies offering proof that good pay for teachers results in better outcomes (Loeb and Page, 2000; Kingdon and Teal, 2007; Figlio and Kenny, 2007; Atkinson *et al.*, 2009). The author acknowledges that the relationships between teacher incentives and pupil performance could also be due to better schools adopting teacher incentives or teacher incentives eliciting more effort from teachers. Certainly, the advantage of performance-related pay is that employees are more aware and more committed to certain organisational objectives. When employees learn that certain skills or specific behaviour are rewarded by a performance-related pay system, they also learn what it is that their employer considers important (Chamberlin *et al.*, 2004). Practising performance-related pay systematically in Great Britain has led to improved goal setting and faster improvements in pupil performance compared to other schools (Marsden and Belfield, 2006). Therefore, performance-related pay is believed to make organisations more performance-oriented, which also makes them more effective in achieving their goals. Despite the number of opponents of monetary incentives for teachers, many studies find that teachers believe financial rewards to be appropriate and that they believe them to have a positive impact on motivation.

For example, the study by Loeb and Page (2000) using state-level panel data (from the United States) to control for any variation in non-pecuniary attributes and alternative salary opportunities so that the relationship between teachers' salaries and pupil outcomes could be identified, offered evidence that the quality of education can be improved by raising teachers' salaries. To be more specific, the estimates of that study suggested that, with all else equal, raising teachers' salaries by 10% would reduce drop-out rates by between 3% and 6%.

A study conducted in the schools of India included 902 pupils surveyed across 20 government-funded and 10 private schools, and a sample of 172 teachers (Kingdon and Teal, 2007), indicating that performance-related pay for teachers in private schools in India does improve pupil performance. In particular, increasing private teacher pay from one standard deviation below mean pay to one standard deviation above raises pupil achievement by 22%. In this study, achievement is defined through test scores of numeracy and literacy.

However, no evidence was found in the case of the government schools. The study performed by Kingdon and Teal (2007) has important restrictions, and therefore, the authors themselves note that the results of the study need to be treated with caution. During this study, no panel-data were used, and therefore, they could not control for all the time invariant effects of the school.

Figlio and Kenny (2007) conducted a survey of personnel practices in 2000 among schools represented in the National Education Longitudinal Survey (1052 schools in total). The study provided empirical evidence of correlations between the use of individual teacher incentives and pupil achievement, meaning that teacher incentives elicit more effort from teachers, resulting in higher test scores. However, Figlio and Kenny point out an important restriction in their study, in the fact that they cannot be sure whether the positive relationship between teacher individual pay and pupil performance is due to the incentives themselves or to unobserved school quality.

Using longitudinal teacher-level data to test the impact of a performance-related pay scheme for teachers, the results of a study in England (Atkinson *et al.*, 2009) show that teachers do respond to direct financial incentives. In an incentive scheme strongly based on pupil progress, test scores improved. The study found empirical evidence that teachers eligible for the incentive payment increased their value-added by almost half a GCSE<sup>4</sup> grade per pupil relative to ineligible teachers, equal to 73% of a standard deviation. In the case of this study, it is essential to note that by dealing with schools directly, researchers were able to link pupils to the teachers who taught them for specific subjects, and not rely on school level averages. That is very important when considering the influence of teacher's individual pay. Although the study indicated higher test scores in the case of performance-related pay where teachers were paid for pupil progress, the dataset did not make it possible to determine whether the pay system represented extra effort or effort diverted from other professional activities.

However, it is worth mentioning that studies aimed at finding empirical evidence about the importance of teachers' salaries have faced several methodological problems. For example, the summaries compiled by Hanushek (1986, 1997) show that studies performed in order to provide evidence that teachers' salaries matter have mostly failed. However, Loeb and Page (2000), conducting a study in the USA, highlight the fact that teachers' salaries may appear to be unimportant because the empirical strategies that have been employed to assess their effects miss some important features of the teacher labour market. Loeb and Page highlighted that if cross-district differences in non-pecuniary characteristics (e.g. number of pupils with special educational needs, geographical location, image of school etc.) produce compensating differentials, then estimates of teachers' salary effects that do not control for these characteristics will suffer from a negative omitted-variables bias. For example, teachers are likely

---

<sup>4</sup> The General Certificate of Secondary Education (GCSE) is an academic qualification awarded in a specified subject, generally taken in a number of subjects by students aged 14–16 in secondary education in Great Britain.

to require higher pay to take a job at a dangerous school or one where the teaching requirements are more onerous, and it is difficult to separate the effect of such working conditions from that of salary (Hanushek and Rivkin, 2007). Government targeted funds for low-income schools with relatively low-achieving pupils that may be used to supplement teachers' salaries also represent data that needs to be taken into consideration. In addition, Figlio and Kenny (2007) point out that the major reason we know so little about the relationship between teacher performance incentives in the United States and pupil performance is that large micro education data sets have gathered very little information about school personnel practices. Therefore, in order to gather additional evidence, qualitative analysis would also be useful. During qualitative studies (e.g. case studies), discussions with teachers and headmasters should be conducted in order to gather valuable information about their opinions about performance-related pay and its influence on their motivation and work performance.

Salary is seen as a tool for attracting employees as well. Therefore, studies that evaluated the impact of salary on teacher recruitment and retention were also explored (see Appendix 2). As mentioned before, the incentive for implementing a performance-related pay system relates to modernising the teaching profession and making it more attractive. There are several studies (Darling-Hammond, 2000; Johnson and Birkeland, 2003; Rhodes *et al.*, 2004; Smithers and Robinson, 2003) that investigate the main factors influencing the decisions to join or leave the teaching profession. One of these factors is salary. Visions of low status, demotivation, low retention and low salary levels are likely to present a discouraging image to those considering the teaching profession (Rhodes *et al.*, 2004). It is important to note that teachers are motivated by monetary incentives, especially when the salary level for teaching is lower than average salary levels. Thus, as with non-monetary incentives, what teachers earn determines who considers teaching as a career choice, who gives it a try, and who ultimately stays. Research by Johnson and Birkeland (2003) indicates that the economic costs and motivational gains of choosing to teach serve as a significant deterrent to staying in such a highly demanding profession. Although the study by Smithers and Robinson (2003) considered salary as one of the least important reasons for leaving the teaching profession, improved salary was the third most mentioned desirable change, and a quarter of teachers mentioned it in their responses.

However, Hansuhek and Rivkin (2007) questioned whether the retention of teachers is beneficial for schools after all. Their study indicated that those teachers who exit teaching were significantly less effective, on average, than those who stayed. Therefore, a salary system aimed at retaining teachers might not be the best solution when considering the quality of education. The question is not about convincing teachers to stay in the profession, but attracting qualified and professional teachers. However, as the salaries of teachers are considered low, it is often pointed out that an overall increase in salaries would improve both the recruitment and retention of highly qualified teachers, and therefore raise overall teacher quality and motivation (Azordegan *et al.*, 2005). But

there are other advantages in implementing performance-related pay. In addition, higher salaries or bonuses for teachers willing to take on difficult assignments are offered to get highly qualified teachers into the schools that need them the most (Prince, 2002). Moreover, performance-related pay is supposed to convey the image of an efficient administration that is concerned about the performance of its employees. The argument most frequently used concerns the expected benefits in terms of job motivation (Forest, 2008).

In summary, although it is difficult to find evidence that performance-related pay influences school performance, higher pay was still mentioned as an important factor most likely to lead to retention in the teaching profession. This provides additional confirmation that the problem is not whether performance-related pay is suitable, but that low salaries in the education sector demotivate teachers. Unfortunately, schools budgets restrict raising the overall salary level. However, performance-related pay is a good way to differentiate pay and allow schools to motivate teachers to achieve better performance because employees should exhibit more effort when they believe they will receive a reward for accomplishing a task (Ramlall, 2004). Furthermore, performance-related pay is implemented also because it makes saving money possible, as the money does not have to be distributed as widely as before. For example, Hanushek and Rivkin (2007) concluded that overall salary increases for teachers would be both expensive and ineffective. They emphasised that compensation and career advancement should be linked more closely to the ability in teachers to improve pupil performance. Therefore, it is not useful to offer a general raise in teachers' salaries, but implementing a performance-related pay system is. Their claim is based on the idea that there is a large variation in teaching quality, even among similarly qualified and experience teachers. These variations may emanate from knowledge and skills, personality, experience or from the peculiarities of school districts, and therefore, a unified salary system would not help improve school performance. Pay differentiation on the other hand would allow schools to take into consideration the singularity of their region and encourage teachers to concentrate on the most important tasks for meeting the school's objectives. However, of particular importance to the success of such programmes is the accountability of school managers (Hansuhek and Rivkin, 2007). The lack of knowledge of accountability and the fact that school managers are uncomfortable with decisions about compensation, creates a situation where salary differentiation is often neglected, and instead, teachers are paid according to their education and pedagogical experience, and this fails to motivate teachers to achieve school objectives.

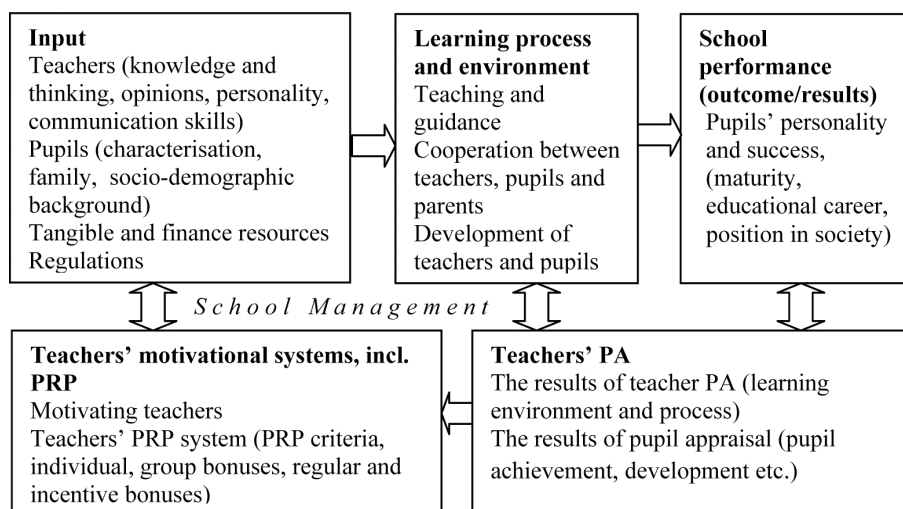
Therefore, the author assumes that higher monetary incentives would result in higher motivation to continue in the teaching profession, develop professionally, improve their work performance and encourage younger people to choose the teaching profession more frequently. However, as for any performance-related pay system, the pay must be in accordance with the performance and must provide an incentive to promote the success of the organisation. Therefore, the author defines performance-related pay as a monetary tool for achieving

school goals by motivating teachers to develop and improve their work performance both as individuals and in teams. In addition to simply achieving the normal tasks that are set for teachers, the definition also emphasises personal and professional development and the co-operational effort in raising school performance.

### 1.1.3. The singularity of performance management in schools and criticism about performance appraisal and performance-related pay

This subchapter provides an overview of the educational process, which should be the basis of the logic of performance management. As one of the main distinctions between pay schemes lies in how they define what counts as performance, then the framework for school performance is described, pointing out the characteristics of school management and teaching activities that result in school performance. However, as the education sector has its own characteristics then criticisms of performance management in schools should also be pointed out.

The majority of the performance management literature dealing with the education sector concentrates on the questions: how are performance appraisal and motivational systems related to each other, to the learning process and to the environment, and how does the system result in increased school performance. The process presented in Figure 4 presents those relationships and is also often called the education production model or education process.



**Figure 4.** The model of the educational process explaining the relationships between teacher performance appraisal and the teachers' motivational system and their role in influencing school performance

Note: PA – performance appraisal; PRP – performance-related pay  
Source: Irs *et al.*, 2009



Here, educational organisations are seen as analogous with companies transforming inputs into outcomes through a production process. The production process in this case is the learning process that is supported by the learning environment (Department of Education, 2000). This approach is the most popular concept in the literature and in practice for discussing political decisions made in the education sector (Hanushek, 1986). Thus, as in all processes, the education process consists of inputs that are transformed into outcomes/results through a learning process and learning environment that is managed by teachers and influenced by the school management.

The inputs in the education process include all the resources committed to the school, which means both tangible and intangible resources. Typical inputs in the education production model are the characteristics of the parties involved in the learning process and environment – characteristics of teachers and pupils (Worthington, 2001) – but also some managerial aspects. For example resources and regulations are relevant in this context. The general conceptual model describes the achievement of a given pupil at a particular point in time as a function of the cumulative inputs of family (socio-demographic characteristics of the families), peers or other pupils (aggregate summaries of the socio-demographic characteristics of other pupils in the school), schools (class sizes, facilities, administrative expenditures, regulations, and so on) and teachers (knowledge and thinking, opinions, personality, communication skills) (Rivkin *et al.*, 2005).

These inputs also interact with each other and with the innate abilities or “learning potential” of the pupil. Hanushek (1986) highlights two points that deserve emphasis: the inputs should be relevant to the pupils being analysed, and the educational process should be viewed as cumulative – past inputs have some lasting effect, although their value in explaining output may diminish over time. Failure to recognise these points has probably caused the greatest problems in interpreting individual studies, and the performance of teachers and schools.

The definitions of school performance are many and varied. For example, it has been defined in terms of the expectations of children, their parents and the community about how people benefit from their education in adult life (Ogbu, 1978). Likewise school performance has been defined as a reflection of the cognitive ability of a child (Fernando *et al.*, 2003). In this dissertation school performance (outcomes or results) is defined as the primary objectives that every school sets out to achieve (e.g. creating citizens). In order to determine how to measure school performance, it is essential to understand the goals of schools. For example, the Primary and Secondary Schools Act (Põhikooli- ja gümnaasiumiseadus, 2010), which regulates the activity of Estonian general educational schools, defines the tasks of primary and secondary schools as follows. Primary schools have an educative task combined with the aspect of bringing up children. They help pupils develop into creative and multifaceted people, who are able to perform well in different roles – family, work, public life – and able to choose a further educational career based on interest and capabilities. As in primary schools, secondary schools also have the task of

educating and bringing up children. The task at secondary school is to produce young people that are creative, multifaceted, socially mature, reliable, conscious of their objectives and achievement-oriented in different fields of life (a partner in personal life, a guardian and contributor to culture, an employer in different occupations and roles and a person responsible for guaranteeing the sustainability of society and the natural environment). The problem is how is it possible to evaluate such a broadly defined outcome? The common approach is to simplify the measures so that easily measurable performance indicators can quantify pupil performance. Good examples can be seen in empirical studies conducted on the basis of the education sector.

Table 3 provides an overview of how different authors have measured school performance – what criteria they have used to measure school performance in empirical studies compiled on the basis of the education sector.

**Table 3.** The results used for evaluating school performance in educational studies

Author(s), year	Criteria for evaluating school performance	Study origin
Hanushek, 1997	standardised test results, continuation in school, drop-out behaviour, subsequent labour market earnings	USA
Loeb and Page, 2000	state high school drop-out rate, college attendance rate, future earnings	USA
Eberts <i>et al.</i> , 2002	course completion, class attendance, grade point average, passing rates conditional on course completion	USA
Griffith, 2004	standardised test scores	USA
Cavalluzzo, 2004	score on exam in mathematics	USA
Rivkin <i>et al.</i> , 2005	test scores in reading and mathematics	USA
Hanushek and Rivkin, 2007	test score in mathematics	USA
Figlio and Kenny, 2007	test scores for reading, mathematics, science, and history	USA
Leithwood and Jantzi, 2000	Pupil engagement: 1) behavioural component (extent of pupil participation in school activities, both inside and outside of the classroom; 2) affective component (the extent to which pupils identify with the school and feel they belong)	Canada
Kingdon and Teal, 2007	scores on tests of numeracy and literacy	India
Holmlund and Sund, 2008	course grades and test scores in mathematics, Swedish and English	Sweden
Atkinson <i>et al.</i> , 2009	test scores for English, mathematics and science	England

Source: compiled by the author

Although school performance in different empirical studies has been defined and analysed in different ways, it is interesting that quite often school performance is equated to pupil performance. Regardless of the origin of the study (USA, India, Sweden, England), quantitative pupil performance indicators are primarily taken into consideration. The most common indicators are pupil academic performance (grades, standardised test results and the results in national examinations), drop-out rates, high school course completion rate, class attendance and pass rates conditional on course completion. A similar pattern can be seen in the case of Estonian general educational schools, where success or performance is mainly measured in terms of academic performance, or how well a pupil meets standards set by the local government and the education institution itself (Irs and Ploom, 2009). A broader approach to defining school performance is seen in Hanushek (1997) and Loeb and Page (2000), who also considered how well pupils were coping in their daily lives. Thus, in addition to academic performance indicators, they also included measures for future earnings and continuing in college in their empirical model. Another interesting approach can be seen in the case of a study compiled in Canada (Leithwood and Jantzi, 2000), where school performance was defined through pupil engagement, evaluating the extent to which pupil participation in school activities, both inside and outside the classroom, and the extent to which pupils identify with the school and feel they belong. The reason the vast majority of school performance studies concentrate on quantitative criteria closely linked to academic performance is not because they are the only, or always the most suitable measures, but because they are available for research at little or no cost to the researcher. Academic performance indicators are easily available because this data is gathered systematically by the education authorities.

Several authors (Meyer, 1997; Mancebon and Bandres, 1999) underline that the indicators commonly used to assess school performance – average and median test scores – are highly flawed because they tend to be affected by pupil mobility and non-school factors outside the formal education context that contribute to pupil achievement (e.g. peers and family, pupil personality, innate abilities etc.). In addition, the author emphasises that measuring school performance on the basis of academic performance is hazardous, as individual academic performance is cumulative over time, and therefore, academic performance indicators reflect information about school performance, that tends to be out of date.

In addition, evaluating school performance using test scores also highlights some issues that may become problematic. The average test results are compared between different schools, and the schools are therefore ranked on the basis of these average scores. But failure to maintain a high ranking may result in adverse consequences, such as poor chances of career advancement for individual teachers and head teachers, and a lower level of demand for places at the school among parents for whom the published school league tables are readily available. Once the performance management system places pressure on each educational institution to maximise its aggregate point score, certain pupils may

be encouraged out of subjects where achieving target grade levels is perceived as difficult. Another problem is that pupils who are borderline in terms of achieving higher grades are identified, and additional resources and attention is directed towards this borderline group (Mayston, 2003). It is important to note that schools also have to deal with pupils with poorer performance by offering support systems for learning, and school performance also depends on the socio-demographic environment. Each school's circumstances and efforts have to be taken into account to avoid misleading conclusions.

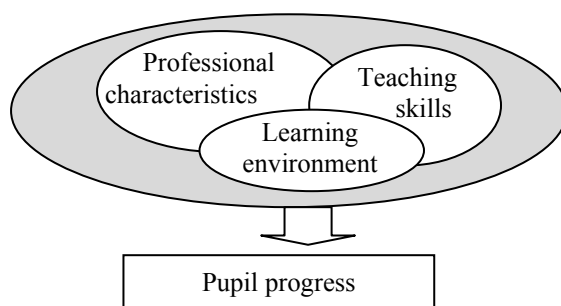
Therefore, the author recommends a broader approach to defining school performance. For example, in addition to academic performance, the school's ability to attract and retain good, well-qualified teachers should be taken into consideration. This can be measured by identifying the presence of teachers with the required qualification, which is also an important criteria in external school evaluations, and therefore, available for both researchers and schools<sup>5</sup>. The results of the internal evaluation system, including teachers' opinions about the school's image as an employer, provides additional valuable information on school ability to attract well-qualified teachers. As the broader aim of schools is to produce citizens able to perform well in different roles – family, work, public life and further educational career (Põhikooli- ja gümnaasiumiseadus, 2010) – then the number of pupils that go on to university in a state-funded student place would also provide valuable additional information. To gather this information, schools should maintain contact with their alumni. However, information about alumni is part of the internal evaluation (Õppeasutuse sisehindamine..., 2008), which makes this data available for education leaders as well. In addition, the quality of education is believed to be reflected in the performance of graduates. For instance, the value-added from a school can be measured in terms of labour market performance; for example, extra earnings or employment of educated workers (Hanushek, 1997; Lee and Barro, 2001). Certainly we must not forget that an individual's performance on the labour market is also dependent on other external factors and circumstances, rather than solely on schooling. Therefore, although data about the labour market is available, conclusions should be drawn with caution.

In summary, schools have multiple objectives and multiple outcomes. For example, emphasis could be placed on short-term cognitive results, intermediate "follow-up" tests, or long-term employment outcomes and prospects in higher education (Engert, 1996; Mancebon and Bandres, 1999). As in Engert (1996) and Mancebon and Bandres (1999), Atkinson (2009) also argues that there is too little agreement on the performance or the goals of education, the relationship between the actions of teachers and the learning of pupils is too complex and difficult to trace. Therefore, measuring school performance has many limitations and it is almost impossible to compose a fully descriptive model for it.

---

<sup>5</sup> The data of external evaluation is available at the Estonian Information System on Education (EHIS – Eesti Hariduse Infosüsteem, [www.etis.ee](http://www.etis.ee)).

As mentioned earlier, the idea behind the educational process is to transform inputs into outcomes through learning process and learning environment. However, teachers have an important role to play in managing the learning process and the learning environment. Teachers make a difference in achieving school performance (Department of Education, 2000). The teacher effectiveness model, which is the basis for England’s educational compensation policy, identified three main factors within the control of the teachers that significantly influence pupil progress: teaching skills, professional characteristics and the learning environment (see Figure 5).



**Figure 5.** Components of teacher effectiveness

Source: Department of Education, 2000; modified by the author

Teaching skills or “micro-behaviours” constantly exhibited by an effective teacher<sup>6</sup> include: high expectations for their pupils, good planning skills, employment of a variety of teaching strategies and techniques, a clear strategy for pupil management, wise time and resource management, employment of a range of assessment methods and techniques, homework that is integrated with class work. In addition to these skills, the natural flow of a lesson combined with effective time management and knowledge about how to engage the majority of the pupils throughout the lesson are seen as important parts of teaching. Therefore, good teaching skills are important tools for facilitating a learning process that is supportive of pupil progress.

Professional characteristics are deep-seated patterns of behaviour, which depend on the teacher’s personal characteristics. When discussing personal characteristics, it is important to highlight the fact that teacher behaviour is dependent on their personality, as behaviour can be self-regulated. For example, people set certain performance standards for themselves and respond to their own behaviour in self-rewarding and self-critical ways in accordance with self-imposed demands (Bandura, 1971). The individualisation of consciousness oriented towards performance constitutes a more subtle yet more complete form of

---

<sup>6</sup> Effective teachers are defined as teachers who make a difference for their pupils and enhance their performance.

control over teachers than is available in top-down control (Ball, 1993). For example, teacher personality profiles have been linked to many characteristics associated with high performing schools: classroom management style, types of learning environments, patterns of teacher and pupil interactions, pupil achievement and teacher attrition (Borg and Shapiro, 1996; Fisher *et al.*, 1998; Thornton *et al.*, 2005). Therefore, outstanding teachers display professional characteristics more often, in more circumstances and to a greater degree of intensity than their ineffective colleagues.

There are five types of professional characteristics: 1) professionalism (respect for others, provision of challenge and support, expressing confidence and optimism about abilities, actively contributing in meetings, creating trust with pupils); 2) thinking (both analytical and conceptual); 3) planning and setting expectations (opinions, drive for improvement – not only the need to do a good job but also the need to set and evaluate achievements against an internal standard of excellence, seeking information, initiative to seize immediate opportunities and sort out problems before they escalate); 4) leading (skills for managing teachers, passion for learning, high degree of flexibility in the face of changing circumstances, commitment to holding people accountable – both pupils and others); and 5) relating to others (understanding others, ability to impact and influence pupils to perform, good team working skills). The learning environment is defined as the collective perception by pupils about what it feels like to be a pupil in a particular teacher's classroom. Perceptions of the learning environment have great influence over pupils' motivation to learn and perform to the best of their abilities. Therefore, the learning environment is seen as a supportive tool for developing the learning process.

However, the outcome of the learning process and environment can be influenced through an appraisal and motivational system. The activities involved in developing pupil progress should be monitored to give feedback about the teaching performance. Thus, performance appraisal should measure the performance and features that capture the key activities of what constitute success or failure for schools. The study by Department of Education in England (2000) suggests that teaching skills, professional characteristics and learning environment – the factors within a teacher's control – will predict well over 30% of the variance in pupil progress. Based on these three attributes (professional characteristics, teaching skills and learning environment), it is possible to distinguish effective teachers from less effective ones. Therefore, it is recommended that the model of teacher effectiveness be used in appraising teacher performance. This approach has been approved by education policy makers in England and has garnered many followers in English educational institutions.

Identifying the key activities that constitute success for the organisation and rewarding teachers based on the performance of those activities is another aspect central to a successful performance management system (Cutler and Waine, 1999). These actions that constitute the basis of success for the school should also be valued through a motivational system, including performance-related pay, and in this way teachers can be better directed towards achieving

the school's overall objectives. In addition, implementing a motivational system in schools, including performance-related pay, should guarantee higher quality of teaching, make the teaching profession more attractive and motivate teachers to develop and upgrade (Performance-Pay for Teachers..., 2007; Wyman and Allen, 2001; Türk, 2008). Hence, a motivational system works as an input to guarantee a better outcome. However, appraisal and pay should be adjusted in light of such performance indicators to provide an incentive for employees to promote the success of the school and the achievement of its goals.

However, as appraisal and motivational systems are part of school management, this raises the question of the importance of school management. According to Ball (1993), management is taken to be a way of organising and running schools, but also as a way of delivering changes. He emphasises the supportive role of the school management in the learning process, as it is a mechanism for ensuring the delivery of a national curriculum, and it ties classroom practice, pupil performance, teacher appraisal, recruitment and resource allocation into a single tight bundle of planning and surveillance. Research into the management of schools has shifted towards greater recognition of more complex variables such as the "interactions between headmasters and teachers and pupils". There should be an emphasis on the management of schools because the opinions and behaviour of leaders provide direction to their organisation, and perform a guiding role in achieving its goals. Furthermore, several empirical studies provide evidence that school management is important in developing school performance (Wellisch *et al.*, 1978; Hallinger *et al.*, 1996; Leithwood and Jantzi, 2000; Griffith, 2004).

The study by Wellisch *et al.* (1978) aimed to identify the relationships between school factors (how strongly administrators felt about instruction, whether they communicated their ideas concerning instruction, and the extent to which they assumed responsibility for instruction) and school success in raising literacy and numeracy skills among pupils who are generally disadvantaged and low-achievers. The study showed that in more successful schools (in schools that succeeded in raising pupil achievement), the headmasters were more concerned with instruction, communicated their views and took responsibility for decisions.

Although, the study by Hallinger, Bickman and Davis (1996), conducted in the US (sample of 1,762 teachers and 9,941 pupils), presented no evidence of direct correlations between the good leadership of headmasters and the performance of pupils, the results did demonstrate significantly strong effects from leadership on organisational conditions. Furthermore, the results indicated that school headmasters that teachers perceive as strong instructional leaders promote pupil performance through their influence on the features of the school-wide learning process. The study also provided empirical evidence about the indirect effect of the headmasters' good leadership on pupil achievement in reading tests.

Similarly, the study by Griffith (2004), conducted in 117 schools in the US, indicated an indirect effect from the headmaster's management through teacher

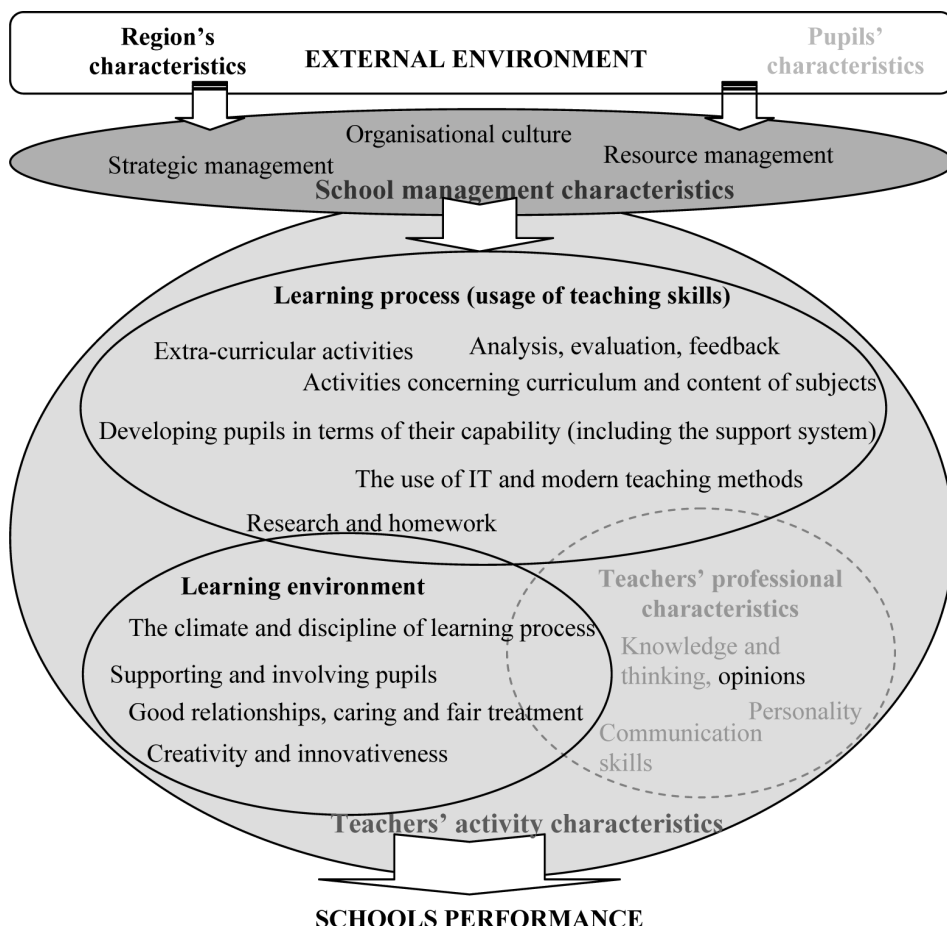
job satisfaction, employee turnover and aggregated pupil performance. The study showed that the headmaster's good leadership reduces employee turnover and raises pupil results in standardised test scores. This study emphasised a headmaster's ability to establish good communication, greater mutual trust and understanding, greater cooperation, and more active involvement of teachers (Griffith, 2004). In turn, higher levels of job satisfaction and cooperative working relationships would be expected to lead to a better implementation of the school's objectives.

In summary, all studies that inquire exclusively about the direct effects of school management and pupil performance, tend to report weak or inconclusive outcomes. However, studies that include mediating variables in their design, tend to report more significant effects. For example, a Canadian study including 2,465 teachers and 44,920 pupils reflected that leadership has a strong, significant direct impact on organisational conditions, and weak but significant indirect impact on pupil performance (Leithwood and Jantzi, 2000). In this study, organisational culture (defined as norms, values, beliefs and assumptions that shape decisions and practices within the organisation) and pupil engagement (participation in school activities both inside and outside of the classroom, the extent to which pupils identify with the school and feel they belong) were taken into consideration. A different measure of pupil performance (instead of results in tests etc.) was chosen by Leithwood and Jantzi (2000) in order to extend the knowledge base concerning the scope of leadership effects. The study showed that school leadership has an influence on pupil participation in school activities and encourages identification with the school.

Therefore, empirical studies have provided evidence that when exploring the educational process, concentrating exclusively on the learning process and the environment is one-sided, as school management is a tool for addressing the transformation process of inputs into outcomes for schools. This leads to the implication that in addition to teaching activities in the classroom, it is essential to also appraise teacher participation in school management processes and reward positive participation in order to guarantee the balanced development of school performance. Based on the discussion in this subchapter, and the concept of performance management (see Figure 2, p. 23), the author has compiled a model of key characteristics of school performance (see Figure 6), which explains how school performance is formulated. The model was designed on the basis of examples from developed countries that have implemented performance management successfully. However, it is important to mention that the Estonian context was also taken into consideration while developing this model. For example, the guidelines for school evaluation in Estonian general educational schools (both external and internal evaluation) were taken into consideration (Õppeasutuse sisehindamine..., 2008, [www.ehis.ee](http://www.ehis.ee)) and some input was gathered from the case studies implemented during the period of 2000–2008 by Kulno Türk among Estonian school headmasters (during continuing education courses and Master studies for headmasters). Therefore, the keywords under



every category in the model are suitable in the context of Estonian general educational schools.



**Figure 6.** The key characteristics of school performance

Note: The factors in grey – pupils' characteristics and teachers' professional characteristics (except for their opinions) – were not included in the current research

Source: compiled by the author based on Macaulay and Cook, 1994; Dransfield, 2000; Department of Education, 2000; Smith and Goddard, 2002; Holbeche, 2005; Alberta Education, 2005; Professional Standards for Teachers..., 2007

The model presents the determination of school performance through the joint effect of school management (strategic management, resource management and organisational culture) and teaching activities (development of learning process, learning environment, teachers' professional characteristics). Thus, in this model the quality of the activities of teachers and school management determine the level of school performance.

The learning process involves activities that are directly involved in gaining knowledge and skills. That means activities concerning the curriculum and the content of subjects, extra-curricular activities, use of IT and modern teaching methods, research and homework, developing pupils in terms of their capability (including the support system), evaluating pupil progress and giving feedback. The learning environment on the other hand is a supportive and essential atmosphere for establishing a good learning process. Without a good learning environment, effective learning is difficult to establish. This involves creating a classroom climate and discipline in the learning process, supporting and involving pupils, creating good relationships with pupils, treating them fairly and developing a creative and innovative atmosphere in a classroom. However, within classrooms, good teachers create learning environments and manage learning processes, which foster pupil progress by deploying their teaching skills as well as a wide range of professional characteristics. The professional characteristics of teachers involve knowledge and thinking, opinions, personality and communication skills.

As with the activities of teachers, school management plays an important role in setting the framework and philosophy for the work of a school (vision, mission, objectives and activity plans), and is therefore also an important basis for developing appraisal and remuneration within performance management. Resource management provides valuable information for using school monetary and non-monetary resources, and therefore, provides valuable information for developing a performance-related pay system. Finally, the organisational culture creates a favourable and positive atmosphere for implementing performance management in schools.

In addition, the model considers the narrower and broader view of performance management (inner and outer loop) (Smith and Goddard, 2002), and therefore, includes the internal context and external environment in which the school operates. Certainly, school performance is influenced by the internal context – each school’s characteristics (e.g. size, school type, language of instruction) – and secondly, by the external environment (e.g. characteristics of the region and pupils). To explain this, the author uses the double loop representation of performance management from Smith and Goddard (2002). In the narrower view of performance management (internal environment), the strategy, objectives and organisational structure are taken as given. School characteristics such as district and size (Cotton, 1996) go here as they have an important influence. The purpose of performance management is to guarantee that the organisation is managed within that context. The broader view, however, emphasises the role of the external environment in which the organisation operates. The organisation must continually review the context within which it operates and be prepared to adjust its strategy according to changed circumstances. The external environment is essential to include because the differences in pupil achievement may be largely explained by differences in pupil and school background (Wellisch *et al.*, 1978; Hanushek, 1989; Huller and Heyneman, 1989; Astone and McLanahan, 1991). Based on the model of key characteristics

of school performance, the author proposes potential performance appraisal criteria for evaluating teacher performance (see Table 4).

**Table 4.** Possible performance appraisal criteria for evaluating teacher performance in achieving school objectives

Performance appraisal criteria related to school management		
<ul style="list-style-type: none"> <li>• participation in school management (teachers' council, board of trustees)</li> <li>• participation in creating the tangible environment for the school</li> <li>• participation in creating the social and cultural environment for the school (incl. cooperation with colleagues)</li> <li>• recruiting personnel and instructing young teachers</li> <li>• development and implementation of school development plan</li> <li>• school development and innovation (participation in projects)</li> <li>• school public relations and communication with interest groups</li> <li>• developing and following regulations</li> </ul>		
Performance appraisal criteria related to the activities of teachers		
Professional characteristics of teachers	Learning process	Learning environment
<ul style="list-style-type: none"> <li>• knowledge and skills in subject area</li> <li>• analytical and conceptual thinking</li> <li>• personality, authority and values (example, ethics)</li> <li>• drive for improvement and learning</li> <li>• getting along and co-operating with pupils</li> <li>• understanding and influencing pupils</li> <li>• co-operating with colleagues and parents</li> <li>• clarity of performance in front of the class</li> <li>• responsibility and conscientiousness</li> </ul>	<ul style="list-style-type: none"> <li>• activities concerning subject content</li> <li>• teaching methodology (study materials, teaching techniques)</li> <li>• use of IT and modern teaching methods</li> <li>• skills in motivating pupils to work independently and with interest (home-work, research)</li> <li>• relevance of learning process and its relationship to practice and other subjects</li> <li>• considering and developing pupil capabilities (educational career, support systems)</li> <li>• evaluation and feedback (objectivity, constructiveness)</li> <li>• extra-curricular activities</li> <li>• development of pupil personality (preparation for life, social skills)</li> <li>• actual teaching workload</li> <li>• number of pupils taught (incl. pupils with special educational needs)</li> </ul>	<ul style="list-style-type: none"> <li>• creative, innovative and flexible learning environment</li> <li>• time management</li> <li>• motivating learning environment</li> <li>• supporting and involving pupils (giving examples, discussions)</li> <li>• discipline in the classroom</li> <li>• unbiased and fair attitude towards pupils</li> </ul>

Source: compiled by the author based on Figure 6, p. 49

The criteria in the table were taken into consideration when compiling the questionnaire for the empirical study performed in Estonian general educational schools (see Appendix 3). Therefore, on the assumption of the main teaching activities, performance appraisal criteria may be grouped according to activities connected to school management and activities connected to teachers, namely connected to their professional characteristics and ability to manage the learning process and establish the learning environment. However, performance indicators should be determined to evaluate the level of teacher achievement in each criteria in the table. The author emphasises that it is impossible to create an appraisal model that to suit all schools. The internal and external context of each school should certainly be taken into consideration. Likewise, performance indicators that evaluate the level of achievement of those performance appraisal criteria should provide objective and relevant information.

However, the nature and variety within the education sector have stimulated active discussion on the topic of whether performance management is suitable for schools and whether performance appraisal and performance-related pay would result in dissatisfaction and low motivation instead of higher school performance. For example, a disturbing pattern has emerged in the multitude of studies of the education process indicating that no strong empirical evidence exists to support the contention that traditional educational inputs have the expected positive influence on educational outcomes (Worthington, 2001). Limited knowledge of the true correspondence between inputs and outputs in the education production process is actually a major problem (Hanushek, 1986). Many economic studies have concluded that school inputs do not matter because school outputs often show no correlation with input variations (Brown and Saks, 1975; Hanushek, 1986). It is important to highlight the fact that Brown and Saks (1975) used pupil academic performance indicators (combination of test results) as their outputs and the ratio of pupils to teachers and other professional personnel, the average number of years of experience of teachers, the percentage of teachers with a Master's degrees and the number of pupils in the school district as their inputs. Hanushek (1986) identifies output as the achievement of individual pupils. The input is defined firstly as the characteristics of the schools, teachers and curricula, which are directly controlled by education leaders; and secondly, the characteristics of families and friends plus the innate endowments or learning capacities of the pupils which are generally not controlled.

The limited understanding of inputs and outcomes in the educational process is problematic for educational policy makers, who have made decisions based on this input-outcome model. The politicians prefer to subsidise input and there is a belief that investing more money in input increases the final value of the outcome. But as already stated, there is no actual proof that larger investments in inputs guarantee an increase in outcomes. Because of the vagueness in determining a definitive model of the educational process, including input and outcome, clear policy prescriptions are difficult to develop. Therefore, Hanushek (1986) claimed that increased expenditures in inputs themselves offer

no overall promise of improved school performance. The aforementioned discussion suggests turning to a reward system for schools. To be more specific, performance-related pay should be directed exclusively towards those activities that have been proven to matter in achieving school performance.

There are other issues concerning the educational process as well. The education process is based on the idea of a regular production model. But there are many things in schools that do not follow to the principles of a production organisation. For example, the education process is carried out by the customer (the pupil), who represents a fundamental input and whose involvement is an authentic determinant of the products obtained (the time dedicated to learning, his interests, his innate capacities) (Hanushek, 1986). In addition, the subject of exchange in the education sector is not one single good with a physical and directly observable form, but rather an outcome made up of elements that are diverse in nature (knowledge, opinions, rules of behaviour, values), which are produced in a joint form and are difficult to measure and aggregate. An indeterminate part of the education received by an individual cannot be seen as a consequence of his passage through the education system, but rather that of his personal experiences, the communication media or the relationships he has had (family, social, friendships). The fact that the education process is cumulative over time does not make the evaluation of teaching performance easier. Many of the components in the process of education only reveal themselves later, once the education years have finished and even emerge throughout the length of an individual's life (opinions about life, position on the economic scale etc.).

A frequent cause of the problems associated with evaluating schools is schools having multiple objectives and multiple outcomes (Baker *et al.*, 1988, Gratz and Kappan, 2005). Conflicting opinions are often expressed by the stakeholders in education regarding the goals and the relative importance of these goals. For example, emphasis could be placed on short-term cognitive results, intermediate "follow-up" tests, or long-term employment outcomes and prospects in higher education (Engert, 1996; Mancebon and Bandres, 1999). Because of the broad objectives of schools, defining specific measures for these outcomes is almost impossible. Likewise, many of the outcomes cannot be unambiguously measured or quantified. For example, many educational outcomes are non-separable so that improvements in skills in one area may lead to improved skills in another, and/or be associated with an enhancement of self-esteem (Hanushek, 1986). Still other educational outcomes, such as socialisation, do not allow parameterisation.

However, performance appraisal itself is criticised. The growth of performance appraisal for teachers has been interpreted as a means of increasing managerial control over diverse occupational groups formerly immune to these processes (Bach, 2005). It has been argued that traditional models and approaches to performance appraisal generally do not succeed in meeting their objectives, are flawed during implementation, act to demotivate staff, and are often perceived as forms of control which are inappropriately used to "police" performance (Winstanley and Stuart-Smith, 1996). Similarly, the influence of

feedback is questionable. Feedback may lower performance, as negative feedback discourages rather than motivates people to improve. It has even been said that performance appraisal systems rely on fear. As Nickols (2010) indicates, performance appraisal systems are one of the chief means of coercing employees into “toeing the line” and otherwise submitting to managerial authority. Healy (1997) notes that the link between appraisal, motivation and the enhancement of classroom teaching is inappropriate. Furthermore, teachers feel demotivated as a result of the rapid rate of change including an increase in their non-teaching workload; appraisal may be perceived as yet another burden rather than an opportunity. Finally, teachers are highly sensitive to appraisal because they themselves use complicated and objective appraisal systems in their everyday work (Krull, 2001). They will not accept general and simple procedures aimed exclusively at examining pedagogical competence.

There are disadvantages and difficulties in implementing performance-related pay as well. The most frequently cited reason for teacher opposition to performance-related pay is the difficulty of evaluating teacher and school performance accurately (Milanowski, 2007). In addition, some authors believe that evaluation should be used strictly for development purposes. Linking it to reward-based processes spoils the evaluation process because it makes the evaluation judgemental, punitive and frightening (Dransfield, 2000).

Heinrich and Marschke (2009) emphasise that an incentive system designer in a multitask environment, like the education sector, where some tasks are measurable and others are not, may be able to develop a good performance incentive scheme if care is taken to understand what motivates employees and to assign or reallocate tasks across workers accordingly. Motivational theorists claim that it is possible to make working much more enjoyable and satisfying through motivation, which would result in increased performance (Lawler, 1969; Herzberg, 2003). Therefore, identifying the basis of motivation for performance-related pay is essential to this dissertation. As both performance appraisal and performance-related pay are built upon the performance indicators valued by a school, then teachers can become too firmly oriented towards these performance indicators, and other important elements of their jobs may be ignored (Chamberlin *et al.*, 2004; Kuhmerker and Hartman, 2007). This is a problem especially where performance indicators are excessively one-sided. For example, when schools only measure quantitative indicators, such as academic performance, teachers may concentrate too much on training pupils to achieve high examination results (Gratz and Kappan, 2005), and general skills and interest in learning may be discarded. Thus, performance-related pay may also lead to disagreements about the objectives of the education sector. Especially since the objectives of schools are multifaceted and many aspects are very difficult to measure (Baker *et al.*, 1988, Gratz and Kappan, 2005).

In addition, teachers that do not perform well in achieving the objectives will get the message that their performance is unsatisfactory (Chamberlin *et al.*, 2004; Kuhmerker and Hartman, 2007). Based on this feedback, they should improve their performance or leave the profession. However, when performance

indicators are only set by the school's headmaster, and the reward system does not benefit the teachers, then the feedback is misleading. For example, when headmasters emphasise academic performance and offer monetary rewards based on these results, then teachers who put effort into developing extra-curricular activities would be paid less, although extra-curricular activities are very important in developing pupil general skills and motivation to learn. This can be prevented when the performance-related pay system is developed in collaboration with all target groups influenced by the reward system. Unfortunately, as teaching cannot always be evaluated in a very clear manner, this also generates a lack of openness. Teachers would like to know why they are getting paid less than other teachers and learn how to earn more. If the feedback is not sufficient, they may perceive performance-related pay as being unfair.

However, performance-related pay can disadvantage teachers with superb performance as well. For instance, a relatively poor performer might be rewarded for improving from a low to a mediocre score, while a consistently superior performer, whose improvement potential is limited because it is already near the top, may not be (Kuhmerker and Hartman, 2007). In such cases, raising the bar when all or most teachers have qualified for a reward should be considered. Performance-related pay may also cause competition instead of cooperation, so in order to motivate teachers to work as a team, group-based performance-related pay may be offered. Last, but not least, despite the assumption that performance-related pay schemes save money because funds do not have to be spread so widely, there are still significant costs (Chamberlin *et al.*, 2004).

These criticisms should be taken into consideration and schools need to be cautious when developing performance management. For example, schools should consider the pros and cons gained with implementing performance-related pay in order to ascertain whether the investment to adopting this management tool pays off with higher school performance or not and how does it effect organisational culture. Similarly, schools have to put a lot of effort into defining the clear strategic aims and all the important activities that help achieving them and therefore should be evaluated and rewarded. Certainly, the design and implementation of performance management should be done thoughtfully. There is a wide range of issues and factors that need to be considered when introducing performance management. The following chapter concentrates on those aspects and activities in order to build up a supportive and motivational performance appraisal and remuneration system.

## **1.2. The design and implementation of appraisal and remuneration aspects of performance management**

### **1.2.1. The framework of activities for preparing to implement performance management**

This subchapter concentrates on explaining the changes in the education sector that necessitate that schools adopt new management tools like performance management. However, in order to do this, it is recommended that schools follow some principles to increase the likelihood of success. Therefore, this subchapter also provides a framework for preparing schools for implementing performance management.

As countries strive to transform their education systems to prepare pupils with the knowledge and skills needed to function in rapidly changing societies, most OECD countries are adopting a number of similar policy trends (Pont *et al.*, 2008). Since the early 1980s, *New Public Management* structures stressing decentralisation, school autonomy, parental and community control, shared decision-making, outcomes-based assessment and school choice, have become the predominant school governance approach in many countries and have significantly altered education systems and had a positive influence on pupil achievement (Webb and Vulliamy, 1998; Business and Industry, 2007; Wößmann *et al.*, 2007; Pont *et al.*, 2008). The concept of *New Public Management* consists of introducing private sector practices in the education sector. *New Public Management* is seen as being beneficial for schools, firstly as it raises competition between schools and therefore, both headmasters and teachers are pressured into improving their performance in circumstances where parents have the liberty to choose the school for their children. Secondly, it enables schools to respond to local needs better and more quickly.

Important keywords in the context of *New Public Management* are autonomy, accountability and choice. Greater autonomy for schools means their authority in decision-making has been increased and schools are decentralised (Ferlie *et al.*, 1996; Pont *et al.*, 2008; Tolofari, 2005). School autonomy is necessary to free schools to respond positively to market forces. However, raising autonomy may involve delegating responsibilities to the school level, or to intermediate levels such as local authorities (OECD, 2004). There are two kinds of decentralisation that have affected schools the most (Whitty, 1997; Pont *et al.*, 2008):

- 1) *Local empowerment*, which refers to the transfer of responsibilities to an intermediate authority between central (or state) governments and schools, such as local authorities in Estonia. In this case, schools are a part of a local education system with reciprocal rights and obligations. However, the local authority has an important role as they connect schools with other public services and community development as well as participating in school strategic management.



- 2) *School empowerment* (or school autonomy), which refers to transferring decision-making powers to schools. This transfers new responsibilities to headmasters as they have to establish budgeting, human resource management, strategic management, relationships with contractors etc.

Advocates of both policies argue that they enhance efficiency, effectiveness and the responsiveness of the education system as a whole (Whitty, 1997). However, there is greater discretion in education systems managed according to school empowerment. Local empowerment means schools are more accountable to the local authorities. In the author's view, full school empowerment assumes that the headmaster of the school has a high level of management and leadership knowledge. Otherwise the implementation of new management tools may be flawed and may harm the organisation. Therefore, in situations where school headmasters do not have the required knowledge, it is recommended that a combined approach of local and school empowerment be used. Certainly, the need for local empowerment will decrease in time as headmasters gain the knowledge and experience they need.

The need for accountability for school outcomes increases during decentralisation. While there is a clear trend towards decentralising the responsibility for budget, personnel and the delivery of instruction in most OECD countries, many have simultaneously centralised curriculum control or accountability regimes to the state or central government as a way to measure and promote school progress (OECD, 2007). Therefore, school headmasters are accountable for inputs and performance outcomes for teachers and pupils, and are under pressure to fulfil centrally defined expectations. The performance oriented approach and decentralisation has increased demands on school headmasters to produce documented evidence of successful school performance. In the context of school accountability, school evaluation is relevant. However, schools need to be accountable to parents as well because parents in developed countries are increasingly being given the freedom to choose the right school for their children (Pont *et al.*, 2008). Therefore, information about school performance is often made available to parents and other important stakeholders. The primary argument among proponents of school choice is that privatisation and competition will bring a much-needed dose of entrepreneurial spirit and a competitive ethos to public education (OECD, 2010).

These changes in autonomy, accountability and choice have produced several structural changes in schools. For example, there have been changes in the pattern of governance. Schools themselves now have more opportunities to exercise most powers including planning and budgeting, resource allocation, hiring and firing, as well as evaluating, monitoring and rewarding (Ferlie *et al.*, 1996; Pont *et al.*, 2008; Tolofari, 2005). The educational values and other values that underpin schooling have also changed. There is a divergence between the social and cultural values of schooling and managerialism. The impact of managerialism is that the emphasis on performance and output measures and resource management has changed organisational culture (Ferlie *et al.*, 1996;

Pont *et al.*, 2008; Tolofari, 2005). Organisational culture in schools is becoming more performance oriented (Pont *et al.*, 2008).

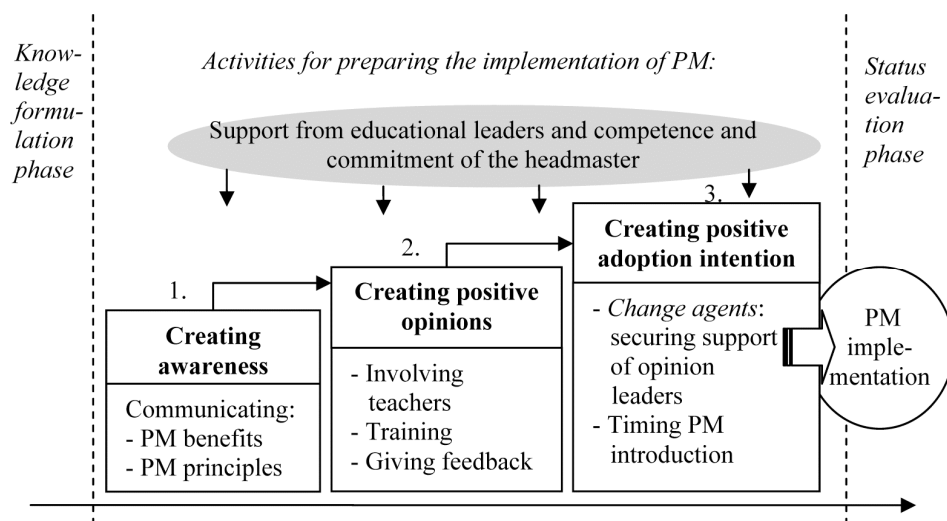
However, based on the fact that the organisational culture of schools has changed, one may assume that the roles and responsibilities have changed also. Cranston (2002) identifies some changes in the roles and skills of school headmasters, claiming that leadership through visionary, attitudinal and cultural change has become more important in recent decades. The roles of headmasters are now approaching those of managers in the business sector. In addition, with increased school autonomy, headmasters have more and more discretion over human and financial resource management. That however, implies that headmasters no have greater skills in leadership, finance and resource management.

As already mentioned, introducing private sector management tools in schools is central to *New Public Management*. However, because the proliferation of private managerial practices in the public sector and the education sector is a conflict-laden and contradictory process, then it is essential to understand those aspects that can facilitate the process. Katzell and Thompson (1990) argue that people who have favourable opinions towards their jobs, work and/or organisations will be more highly motivated to remain in and perform their jobs. In addition, people will act in ways that accord with their opinions. Two major work-related opinions are job satisfaction and job involvement. Nevertheless, implementing performance management involves a great change in schools and in their cultures. That also involves a change in opinions. Therefore, critical opinions of the implementation of performance management may result from a sceptical view of anything “new” or of change. Certainly, how individuals feel about change may differ. But although the overall aim of performance management may be good, implementing new management tools (e.g. teacher performance appraisal and performance-related pay) is often faced with resistance to change. For example, Marsden and French (1998) claim in their research that teacher resistance to new performance management systems results from a general resistance to change. However, the research in question tended to prompt teachers to answer negatively to the research questions. For example, when asking the employee whether he or she started to work harder after the implementation of performance-related pay, many of them would answer that they already did their work well before launching the new system. Richardson (1999) has claimed that while teachers do get used to a performance management system during its implementation, and develop much more reliable evaluation criteria and methods, based on their experience, teacher performance management continues to be complicated and problematic.

All this increases the need to deal with managing the preparatory work for implementing performance management, which is very closely related to changing opinions (Rashid *et al.*, 2004). While managing change in schools is seen as a difficult task (Marsden and French, 1998; Richardson, 1999), O’Connell, Rust (2001) and Freidus have highlighted some conditions that contribute to successful change in the education sector (2001). They emphasise collaborative cultures that foster professional learning communities,

instructional practices that are fully understood and relevant to the organisational members, keeping the personal needs of organisational members in mind and the external environment. Change is a collaborative effort, which is achieved through involvement, training, changing opinions, sharing values and taking into consideration the internal and external school context. The recommended framework of activities for managing the preparatory work for implementing performance management is presented in Figure 7.

Before managing the preparatory work for implementing performance management, knowledge should be formulated about the context that the organisation operates in. This is necessary, as successful change efforts emerge from needs that are locally identified, appropriate to the specific context and transformative for both individuals and institutions (O'Connell Rust and Freidus, 2001). During this phase, the author emphasises the importance of evaluating the opinions of individuals and influential groups. As resistance to change is seen as a phenomenon inferred from measured changes in expressed opinions, it is believed that facts, beliefs, and values raised by employees are good indicators of what may cause resistance to change (Kelley and Volkart, 1952; Piderit, 2000; Aladwani, 2001).



**Figure 7.** A framework for preparing schools for implementing performance management

Note: PM – performance management; the different phases in the framework are separated with the vertical discontinuous line

Source: compiled by the author based on Aladwani, 2001; Armenakis and Harris, 2002; Johnson *et al.*, 2006

In addition, identifying these opinions provides valuable information for starting to implement performance management, as it helps map whether the opinions of the new management tools are supportive or not, who supports the

change, which individuals are resistant to change, what are the reasons for the resistance, what are their beliefs and needs and what should be done to meet these needs. Observations by Burke *et al.* (2009) indicate that a strong psychological subgroup with negative opinions of the management will form the strongest resistance to change, while the groups with cohesiveness and positive cooperative opinions are the best re-learners. Therefore, one task for knowledge the formulation phase is to ascertain these negative subgroups and work on making their feelings more favourable in the preparatory phase. This is necessary because employees who have negative opinions of the management implementing the change, also show feelings of frustration and a loss of hope, which would ultimately result in low motivation and work performance (Burke *et al.*, 2009).

While considering knowledge formulation at the level of educational leaders, the context of schools should be mapped in order to ascertain their willingness to implement performance management. For example, in the context of this dissertation, which concentrates on Estonian general educational schools, information about the situation in the Estonian education sector should be ascertained (see also the principles of operation for Estonian general educational schools from Appendix 4). The Estonian education sector has shifted governance away from government control toward a system that emphasises policy devolution, privatisation and performance competition. In addition, the decentralisation of the Estonian education sector allows locally-tailored solutions and innovations. However, the author adds that the policy chosen in the Estonian education sector is a combination of local and school empowerment. For example, the results of the OECD study (OECD, 2008) also indicate that 66% of the decisions concerned with human resource management, resources, planning and organising instruction in general education in Estonia are made at the school level, 30% at the local level and only 4% of the decisions are made at the government level. This indicates that schools enjoy quite a high level of autonomy. However, the results of the OECD study (2008) also confirm that in the Estonian education sector, the local authorities are the school keepers and they follow the development of their community while directing educational institutions (see Table 5).

Thirty-six per cent (36%) of the planning and structural decisions are made at the local level and half at the school level. As planning is dependent on educational policy, 14% of the planning decisions come from the government level. When comparing decision-making in several fields, local authorities in Estonia have most power concerning resources. Local authorities control school budgets since they approve the budgets compiled by the headmasters. Therefore, one half of the decisions about resources are made at the local level, and the other half at the school level. In addition, it is worth mentioning that local authorities lay down the rules and activities of the board of trustees, and also participate in the board and enforce the statutes of the school.

Yet, there is proof about school empowerment as well, as school headmasters enforce their school's curriculum, have authority to administer the school

budget (50% of the decisions concerning budget are made at the school level) and the right to choose the best management system or rules for their schools. Eighty-nine per cent (89%) of organising instruction in the Estonian education sector is decided at the school level. Similarly, Estonian schools have quite extensive authority to manage their own human resources. However, in about one-quarter of OECD and partner countries, decisions are mostly highly centralised (OECD, 2008).

**Table 5.** Decisions made regarding the organisation of instruction, human resource management, planning and structures and resources at each level of government in general educational schools (in percentages)

	<b>Organisation of instruction</b>				<b>Human resource management</b>		
	National	Local	School		National	Local	School
Estonia	-	11	89	Estonia	-	25	75
England	-	-	100	England	17	-	83
Finland	-	33	36	Finland	8	71	21
Denmark	-	11	89	Denmark	25	33	42
Sweden	-	11	89	Sweden		33	67
Netherlands	11	-	89	Netherlands	13	-	88
Norway	13	25	63	Norway	-	54	46
	<b>Planning and structures</b>				<b>Resources</b>		
	National	Local	School		National	Local	School
Estonia	14	36	50	Estonia		50	50
England	-	20	80	England	-	-	100
Finland	-	100	-	Finland	-	100	-
Denmark	50	50	-	Denmark	-	67	33
Sweden	70	30	-	Sweden	-	67	33
Netherlands	-	-	100	Netherlands	-	-	100
Norway	86	14	-	Norway	-	67	33

Source: compiled by the author based on OECD, 2008

The majority of decisions in Australia, Luxembourg, Mexico, Portugal and Spain and the largest percentage of decisions in Austria are taken at the central and/or state level of government. On the other hand, in more than one-half of OECD and partner countries, decisions are more often made at the school level. The OECD survey (2008) emphasises that the Estonian education sector is autonomous because the majority of decisions are made at the school level.

However, it also highlights England and the Netherlands, where nearly all decisions are made at the school level. Therefore, the current context and conditions are favourable for starting to implement private sector practices, such as performance management, because headmasters have the power to design their own management system and the increasing competition between schools requires schools to start managing the change associated with the emergence of *New Public Management*.

When all the necessary knowledge has been collected then it will be possible to choose the right activities to prepare the implementation of performance management. The activities for preparing to implement performance management are about changing opinions. Dunham *et al.* (1989) and Cameron (1998) suggest that there are three types of opinions toward change: affective, cognitive and behavioural. The affective component consists of the feelings a person has toward an object, which involve evaluation and emotion, and is often expressed as a like or dislike for the object. The cognitive component of an opinion incorporates information a person possesses about an object which is based on what the person believes is true. The behavioural component concerns the way a person intends to behave toward an object. Within this view, "resistance to a change" is represented by a set of responses to change that are negative along all three dimensions, and "support for a change" is represented by a set of responses that are positive along all three dimensions (Piderit, 2000). Thus, the preparatory work for implementing performance management incorporates three critical levels (Aladwani, 2001):

- 1) creating awareness;
- 2) creating positive opinions;
- 3) creating positive intention to adopt.

In an attempt to change opinions, the school administration must first try to affect the cognitive component of the teachers' opinions. A useful strategy for achieving this goal is a communicative approach. For example, based on experiences in England, one common mistake is that schools focus exclusively on the process of creating the performance appraisal and reward system, but they forget to enhance internal communication and teacher involvement (DfEE, 2000). School headmasters should introduce the benefits and principles of performance management to the teachers, and to do this it would also be useful to present examples from other schools that have already successfully adopted performance management. Raising awareness of performance management helps create positive opinions, and therefore, the teachers would be more ready to take part in the new processes taking place at the school.

The second step in preparing for performance management is to influence the affective component of teachers' opinions. In this phase, positive opinions are created by involving teachers both individually and in groups in the development and implementation of a performance management strategy. Resistance to change is believed to be a combination of individual reactions to frustration with strong group-induced forces. Therefore, it is recommended to overcome

the resistance to change with group meetings in which the management effectively communicates the need for change and stimulates group participation in planning the changes.

Involvement is an important keyword in this context as it results in higher performance, higher morale and better labour-management relations (Burke *et al.*, 2009). In addition, Johnson *et al.* (2006) emphasise that it is essential to involve all those affected by the strategic change in the change agenda. All teachers should participate in the development phase of performance management because the system only works if it is an integral part of the school's culture, it is seen to be fair and open, it is understood by everyone and based on a shared commitment to supporting continuous improvement and recognising success (DfEE, 2000). If not implemented in this way, evaluation and reward systems will not work even when they are suitable and reflect the organisation's objectives, strategy and other important processes accurately. In addition to involvement, educating and training teachers according to performance management and giving feedback are also essential to develop favourable responses and build positive opinions toward the system.

The third step in managing the preparatory work is the conative stage. At this stage, the timing of the introduction of performance management and getting the endorsement and support of well-known individuals and opinion leaders are important. These individuals are also often called change agents. There are internal and external change agents. Internal change agents work within the school setting to initiate and promote change within an external framework of support and sponsorship (Goodson, 2001). They are not necessarily someone at the top of an organisation, but rather someone who is in a position to have an influence (Aaltio-Marjasola, 1994; Piderit, 2000; Johnson *et al.*, 2006). However, headmasters may perform the role of change agent as well (Alexander and van Wyk, 2010). This is especially relevant in the context of *New Public Management*, where headmasters' roles have broadened and they are expected to act as leaders inside an organisation. However, it is important to keep in mind that change agents are usually organisational members who have the characteristics of leaders and are voluntarily followed by other members of the organisation. When headmasters do not have the necessary authority, then it is best to find change agents from among the other school employees and who are important opinion leader for the teachers.

Change agents from outside the organisation are usually experts who transfer knowledge by modelling and disseminating "state-of-the-art" educational innovations (Backer, 1995; O'Connell Rust and Freidus, 2001). During this, teachers receive training and they have the opportunity to ask questions. However, the author emphasises that the teachers should trust the outsiders and their opinion because changes only happen with an inner change in teachers' opinions (Goodson, 2001). Therefore, important opinion leaders would be more effective in managing change in schools. The research by Berman and McLaughlin (1978) indicated that change implementations were most successfully implemented when internal personnel were given time and authority to

work alongside the external change agents, when they were able to assume increasing responsibility for the change, and when teachers were provided with on-going support after the change agent had left the organisation. In addition to trusting the external change agents, involvement and support on behalf of the outsiders are also essential.

However, in the author's opinion, there are pros and cons to using internal and external change agents. The benefit of using internal change agents stems from two issues – cost factors and accessibility to information (Paton and McCalman, 2008). External consultants are often consultants who have to be paid and because they are usually highly valued experts, then the fees may be very high. Despite the recommendation that internal change agents be offered bonuses, the cost of employing them is lower. Change agents from within the organisation know the organisation and its members best. The value of internal change agents is said to be that they have all the information at hand whilst remaining objective with the regard to the organisation and its problems (Armenakis and Harris, 2001; Paton and McCalman, 2008). Therefore, it is much easier for them to obtain valuable information in order to manage the change. Similarly, it is easier for them to support and involve different organisational members and much easier to gain the trust of their colleagues to facilitate implementing the change. Certainly, it is necessary that the change agents are recognised by their colleagues. Change agents who are accepted opinion leaders within the organisation are often the most successful in assessing and developing the readiness for change. Similarly, as the internal change agent stays in the organisation during and after the change, then it has the opportunity to observe the change process and support colleagues throughout the process (Armenakis and Harris, 2002). Since the organisation's success results in the success of its members, then of course, the change agents within the organisation are personally more motivated and committed to achieving better performance by implementing new management tools.

However, there are disadvantages in using internal change agents as well. Change agents chosen from within the organisation are certainly experts in schools, but they might not have the necessary knowledge for managing the change. Therefore, before involving change agents, they should have the required knowledge to execute the changes (Paton and McCalman, 2008). Certainly, the headmaster should partner with the change agents, supporting, counselling, teaching and rewarding their performance. In addition, while being a part of the organisation is useful for gaining trust and knowing the organisation and its problems, the down side is that they usually lack the ability to introduce new perspectives to the organisation (Paton and McCalman, 2008). As they are used to doing things as they have always been done in the organisation, then they tend to operate similarly in the change context also.

Some advantages of involving change agents from outside are that they can bring expertise concerning the new management tools, they can help manage the change and bring new ideas and perspectives into the organisation (Stockdale and Crosby, 2004). However, a disadvantage is that as they are outsiders,



they do not have a complete picture of the organisation and its members and they are only working for the organisation for a short time. Therefore, they might find it more difficult to gain the trust of the organisation's members and access to valuable information (Paton and McCalman, 2008). But on the other hand, as they do not know the details of the organisation, it is much easier for them to see and manage the overall picture. Another disadvantage arises from the external source of the change. Because it is mandated in a top-down manner, then if the need for change is not introduced or the organisation does not have enough knowledge to manage the change, this may lead to a reluctance to change (Goodson, 2001). This concern is relevant where the external change agent is, for example, a government institution that enforces the new management tools via the law and provides no guidance materials. To conclude, as internal agents know the organisation the best, and external agents are experts and have new ideas, then cooperation between these two is essential during the change process (Stockdale and Crosby, 2004). In the author's opinion it would be useful to combine the advantages of involving both internal and external change agents.

However, managing the preparatory work for implementing performance management is directed on two levels. Firstly, while the Estonian Ministry of Education and Research manages schools politically in terms of school reforms, the ministry should not simply dish out orders for the schools to adopt new management tools, but should also manage the whole change process. Therefore, they can also be seen as external change agents introducing performance management in the education sector. Secondly, one must not forget the important role of school headmasters. While schools are autonomous in terms of their own decisions about what management tools to use, implementing new management tools is largely dependent on the headmaster's decisions (Pont *et al.*, 2008). Similarly, school managers should adopt strategies to manage the change in their schools, and this means they are performing the role of an internal change agent. During the preparatory work, support and commitment from both the ministry and the school manager is essential. They should have a clear vision and not act alone, but involving all members of the organisation in the change process. Both of them should involve group leaders (the ministry should involve headmasters and the headmasters should involve exemplary teachers) to participate effectively in the implementation process and make them feel that they are key players, and this ultimately results in greater commitment from them. Furthermore, their commitment gives motivates them to convince their colleagues or other organisational members that the performance management system is to their benefit.

Timing the introduction of performance management is crucial. However, it is important that a performance management system not be introduced until a positive opinion is built and sustained among the teachers (Aladwani, 2001; O'Connell Rust and Freidus, 2001). As human behaviour is directed towards the satisfaction of needs and those needs drive employees in organisational change (Alas and Vadi, 2006), positive opinions among the staff about new

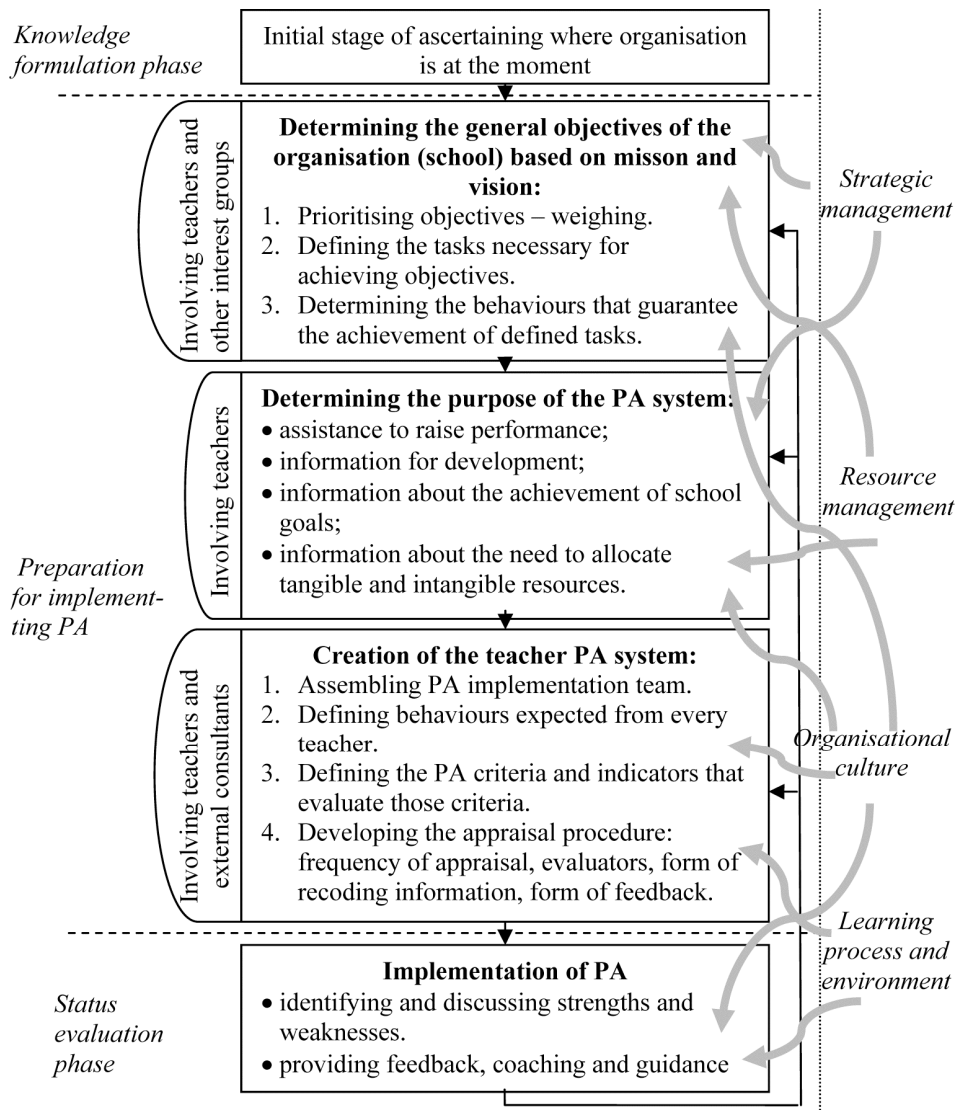
management tools represent a good basis for implementing change, making the changes easier to implement. In addition, it is recommended that the change be first implemented in areas where new assumptions are likely to function or achieve success quickly (Marcinkoniene and Kekäle, 2007).

Finally, during the change process it is essential to monitor how the implementation of performance management is being run. Based on the evaluation results, the headmaster should decide whether to continue with the same strategy and actions or a new perspective should be taken to turn the change in the desired direction. At this stage, it is also important to provide continuous feedback to all organisational members. Providing a satisfactory amount of recognition and valuing employees' ideas and opinions are important behaviours for managers associated with driving employee engagement (Mone *et al.*, 2011). It is important to reward good performance and encourage people to exert more effort to raise the performance of their organisation. This subchapter emphasised that changes in organisations cannot be enforced, but they should be managed. Similarly, the implementation of performance management does not start with introducing performance appraisal and performance-related pay to the teachers, but with the preparatory work to ensure positive opinions towards those management tools. Without the proper preparatory work, implementing the appraisal and remuneration aspects of performance management may fail and even harm school performance.

### **1.2.2. Stages and principles of performance appraisal design**

The current subchapter explains the stages in developing a performance appraisal system. It clarifies the critical steps in the preparatory stages of performance appraisal and how the school management and aspects of the actions of teachers are related to creating an accepted performance appraisal system. This subchapter will also present research propositions concerning teacher performance appraisal.

The recommended stages of performance appraisal design are presented in Figure 8. The initial step in developing a performance appraisal system is to ascertain the current state of the organisation. It is necessary to gather this information to prepare the organisation for change and decide where the organisation needs to go. Grote (1996) also points out that the knowledge formulation phase is also a useful tool for developing discussion during the initial stages of the change within the organisation when communication is shared among important interest groups (e.g. teachers, parents, pupils) because good communication facilitates a smoother implementation and acceptance of a performance appraisal system. The knowledge formulation stage provides essential input for determining the organisation's strategic philosophy, which also forms the basis for determining the general objectives of the school.



**Figure 8.** Stages in developing a teacher performance appraisal system

Note: PA – performance appraisal; Different phases in the framework are separated with a horizontal discontinuous line; Connections between the activities of the school management and teachers and development stages of performance appraisal are shown with grey arrows

Source: compiled by the author based on Macaulay and Cook, 1994; Grote, 1996

When developing a performance appraisal system, schools should clearly define the school’s mission statement, which is also a guide for identifying the school’s strategic objectives. Therefore, the school’s strategic management becomes relevant at the beginning of the performance appraisal design process. Performance appraisal should provide a link between teacher performance and the strategy of the school (Rogers, 1990; Mwita, 2000; Lohman *et al.*, 2004;

Krishnapillai, 2009). Hence, in order to build up a performance appraisal system, schools should set objectives that are in accord with their mission and reflect their vision for the future. As not all objectives are of equal importance to the organisation, then all objectives are weighted in order to ascertain the priorities of the organisation. All objectives that are emphasised by the organisation should be provided with tasks that are necessary in order to achieve those objectives. Tasks on the other hand should be linked to specific behaviours that need to be evaluated further on in the teacher performance appraisal process.

However, as strategic plans include different interest groups then it is relevant to involve them all. This guarantees that all the important aspects of school performance are taken into consideration. In addition, involvement is important, as it helps teachers to understand their role in the school. To guarantee the achievement of the school's objectives, teachers should understand what is expected of them and then they can see that they are being valued within the organisation (Macaulay and Cook, 1994). Furthermore, all strategic objectives should be communicated to all levels of the organisation so that each of the lower levels can establish more specific performance criteria consistent with the strategic objectives (Lohman *et al.*, 2004).

However, it is also important to note that resource management is also connected to setting objectives. The connection is twofold because firstly, more resources are allocated to essential activities, and secondly, the current state of monetary and human resources dictate the extent to which activities can be performed within the school's strategic plan.

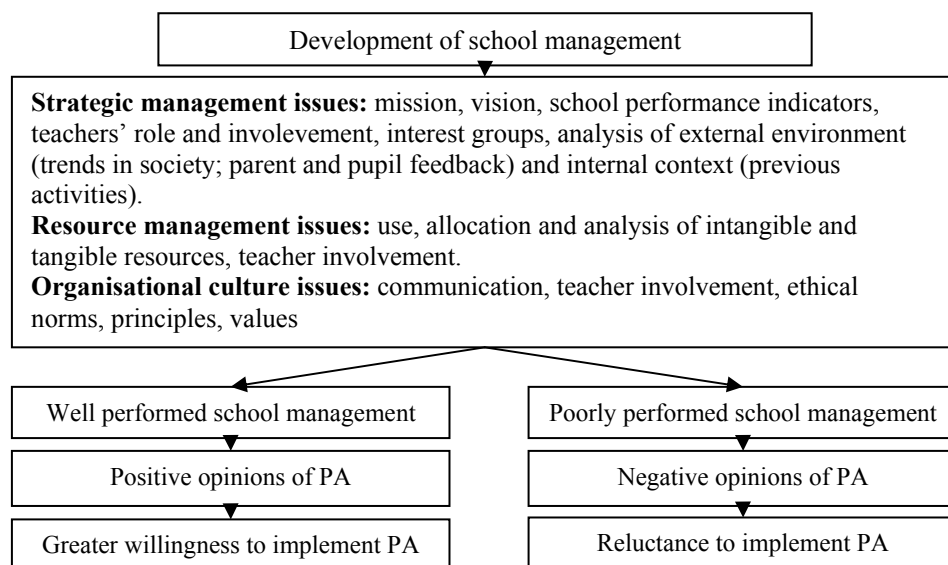
After setting the school's objectives, the objectives of the teacher performance appraisal system should also be defined with the view that the appraisal system should support the achievement of the defined school's objectives. Teacher performance appraisal can be used in various ways; for example, as a system it may aim to help increase performance, provide information for development, provide information about the achievement of the school's goals or information about the need for both intangible and tangible resources (Grote, 1996). A combination of several aims is usually targeted. The aim in gathering information about the need to allocate intangible and tangible resources is closely connected to resource management. Good performance appraisal provides valuable information for making resource management decisions. However, in order to develop an appraisal system that supports resource management, headmasters should know what to seek out in order to obtain objective relevant information for making resource allocation decisions. This is ironic because in order to develop a good feedback system for resource management, good knowledge of managing resources must be assumed.

When the aims of the performance appraisal system has been identified, it is possible to go on with the process of designing the system itself. During this stage, the individual behaviour of teachers is analysed in order to determine the expected performance of every teacher in order to help schools achieve their objectives. Since the main assumption is that performance appraisal should help monitor the fulfilment of objectives, indicators that give this kind of feedback

should be defined along with the guidelines for how often the performance is appraised, who will execute the appraisal, how is the information gathered and recorded and how and who will communicate the feedback. The lack of or incorrectly presented feedback may generate resistance, the performance appraisal system may be perceived as unfair and employees may feel their efforts are not adequately valued (Brown and Benson, 2003). However, it is important to note that the creation of an effective performance appraisal system is a continuous process, so the appropriateness of that system should be re-evaluated periodically and changes made as necessary (Bititci *et al.*, 2000). Such information is available after implementing the performance appraisal system, meaning that it is important for headmasters do deal with the status evaluation phase thoroughly. Feedback from teachers about the system that is evaluating their work effort would also certainly be useful.

Not only does strategic and resource management become relevant in performance appraisal system design, but organisational culture is also important because it offers a shared system of meanings, which forms the basis of communication and understanding (Martins and Terblanche, 2003). In fact, organisational culture is related to all the steps as it creates the necessary atmosphere for developing the performance appraisal system in the first instance and implementing the system. For example, if goal orientation exists in the organisation, adoption and implementation of performance appraisal criteria is more likely to occur (Lancer Julnes and Holzner, 2001). Several studies present evidence about the importance of organisational culture. For example, the research by Moynihan and Pandey (2010) indicates that more broadly constructed organisational culture matters for achieving organisation performance. However, in addition to raising performance, organisational culture helps to introduce change. Study results by Tierney (1999) suggest that the development of strong relationships between supervisors and employees, and among employees and their team members is associated with employees perceiving that they work in a context that is characterised by risk-taking, and departure from the status quo is supported by open communication, trust, operational freedom and employee development. Employee-based management is necessary to motivate people to embrace the change within the organisation. The study by Gaiduk *et al.* (2009) carried out in Lithuania also proved that providing more employee-focused management and communication practices increases the relevance for the employees and has a positive effect on employee attachment to the organisation. Because change is often achieved through changing opinions (Aladwani, 2001, Johnson *et al.*, 2006), organisational culture is relevant, as it helps create strong relationships between school headmasters and teachers. For example, Tierney (1999) found employees' relationships with their supervisors and teams shape their opinions of the organisation and the implementation of new management tools (e.g. performance management). Headmasters can also influence organisational change by developing relationships with teachers because this helps create favourable opinions of teacher performance appraisal (Weisbord, 1976).

The discussion above raises the question of the importance of school management within the overall opinion of performance appraisal among pedagogues. As the design of the performance appraisal system is dependent upon inputs in terms of strategic management (clearly set mission, vision, objectives, tasks and behaviours), resource management (the requirements for information for making decisions about resource allocation, the financing of different activities of schools' strategic plan) and organisational culture (creating supportive atmosphere for performance appraisal), one may assume that the quality of those aspects of school management may have an influence on the opinions of all pedagogues in the school. The rationale behind this is presented in Figure 9.



**Figure 9.** Rationale for setting proposition 1a: the potential relationships between school management and opinions about performance appraisal among pedagogues

Note: PA – performance appraisal

Source: compiled by the author based on Grote, 1996; Mwita, 2000; Aladwani, 2001; Armenais and Harris, 2002; Martins and Terblanche, 2003; Lohman *et al.*, 2004; Johnson *et al.*, 2006; Krishnapillai, 2009

Understanding the relationships between school management and the opinions of pedagogues is essential, because people will act in accordance with their opinions (Katzell and Thompson, 1990), and positive opinions help introduce reforms in organisations (Aladwani, 2001; Armenakis and Harris, 2002). Positive opinions towards performance appraisal as a management tool make adopting performance appraisal in the organisation much easier. Therefore, proposition 1a is formulated as follows:

**Proposition 1a:** *Strategic management, resource management and organisational culture* are positively related to pedagogues' opinions about the teacher performance appraisal implemented in their schools.

Finding evidence to support this proposition will help us understand how school management influences performance appraisal design, and therefore, enables to make proposals for headmasters with respect to designing fair and acceptable performance appraisal system for evaluating teachers.

There are other critical aspects in a performance appraisal design that need to be taken into consideration. These are mostly related to the process of designing performance appraisal. The author emphasises the teacher involvement issue. During the process of developing a performance appraisal system, implementation teams are usually assembled, and their task is to manage the process of designing the performance appraisal system. In this way, they act as an expert group. As teachers are central to teacher performance appraisal, it is advisable to involve at least some teachers in the implementation team. The worst case scenario would be that organisational leader or school headmaster does not develop the performance appraisal system as a cooperative effort, but designs the system alone. In such a scenario, only the headmaster's view of managing the school is presented and it is much more difficult for the teachers to understand how it will all work. However, because not all teachers can belong to this implementation team, random feedback from other teachers would also be useful. Involving teachers and considering their opinions serves two tasks (Grote, 1996):

- 1) it provides feedback from future users of the performance appraisal system to make sure that the assumptions made are sound and that the appraisal process being developed is one that will work;
- 2) it develops supporters (or change agents), who can exert a positive influence on other users of the system and pave the way for a smooth implementation.

Grote (1996) concludes that no matter how good the system may be in theory, no matter how academically grand and legally solid, if involvement is not used during the performance appraisal design, the entire development process has been a waste of time. There are several studies that confirm the importance of involvement in implementing performance management. Similarly, the framework of activities for preparing to implement performance management (Aladwani, 2001; Armenakis and Harris, 2002; Johnson *et al.*, 2006)<sup>7</sup> emphasises the importance of teacher involvement in creating positive opinions, which also contribute to creating the positive intention to adopt performance management in schools. Roberts (2003) argues that participation in creating performance appraisal is an essential component of the fair and ethical evaluation of employee performance. Research by Cawley, Keeping and Levy (1998) suggests

---

<sup>7</sup> See the framework for preparing schools for implementing performance management from Figure 7, p. 59.

that allowing employees to participate in the creation of appraisal is associated with positive employee feelings towards the appraisal system. The relationship between participation in the performance appraisal process and various employee reactions was explored through a meta-analysis of 27 studies containing 32 individual samples, showing that the overall relationship ( $\rho$ ) between participation and employee satisfaction was 0.61.

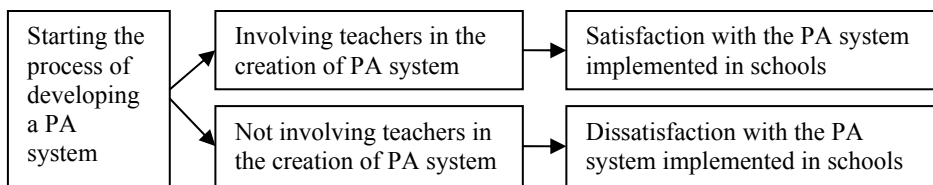
Similarly, appraisal systems merely created by the top management did not lead to the desired changes and did not become an inseparable component of the management processes. For example, those teachers who were involved in the development of appraisal systems were much more aware of and accepted the expectations set on their performance, understood the appraisal process better and were much more committed to it (Kelly *et al.*, 2008). Research by Williams and Levy showed that an understanding of the appraisal systems was positively correlated with work satisfaction, organisational commitment and the perception of justice (Williams and Levy, 1992).

Involving employees in the creation process increases their satisfaction and trust in managers as well. Employee satisfaction is related to their perception that the system is fair, and the level of satisfaction with and trust in their supervisors. For example, Mani (2002) performed case studies among the employees of East Carolina University (United States, response rate 85%), where this issue was analysed using a logistic regression<sup>8</sup>. The case by Mani points out that compared to those who are not satisfied with their supervisors, employees who are satisfied with their supervisors are about 1.59 times more likely to say that they are satisfied with the performance management system. Similarly, when compared to those who do not trust their supervisors, employees who trust their supervisors are about 1.3 times more likely to say that they are satisfied with the performance management system. Mani also points out that if supervisors cannot give employees credible feedback and the relationship is damaged, then it seems less likely that performance appraisal will have any credibility or will motivate employees to improve (Mani, 2002). Similarly, studies by Brown and Benson (2003) and Chang and Hahn (2006) emphasise that while developing and launching an appraisal system, a lot of attention should be paid to the communication that relates to it. Based on this discussion, a rationale for formulating a second proposition, about teacher involvement, can be drafted (see Figure 10).

---

<sup>8</sup> The dependent variable in the study by Mani (2002) was “employee satisfaction with the performance appraisal system”, independent variables were defined as “trust towards supervisor” and “satisfaction with a supervisor”.





**Figure 10.** Rationale for setting proposition 1b: the potential relationship between teacher involvement and teacher opinions about teacher performance appraisal system implemented in their schools

Note: PA – performance appraisal

Source: compiled by the author based on Williams and Levy, 1992; Grote, 1996; Cawley *et al.*, 1998; Aladwani, 2001; Armenakis and Harris, 2002; Mani, 2002; Roberts, 2003; Brown and Benson, 2003; Chang and Hahn, 2006; Johnson *et al.*, 2006; Kelly *et al.*, 2008

The author wanted to know whether teachers in Estonian general educational schools are involved in the process of creating the performance appraisal system and how this influenced their opinions of performance appraisal systems implemented in their schools. The following proposition was formulated:

**Proposition 1b:** Teacher involvement<sup>9</sup> in the process of creating the performance appraisal is positively related to teacher opinions about the performance appraisal system implemented in their school.

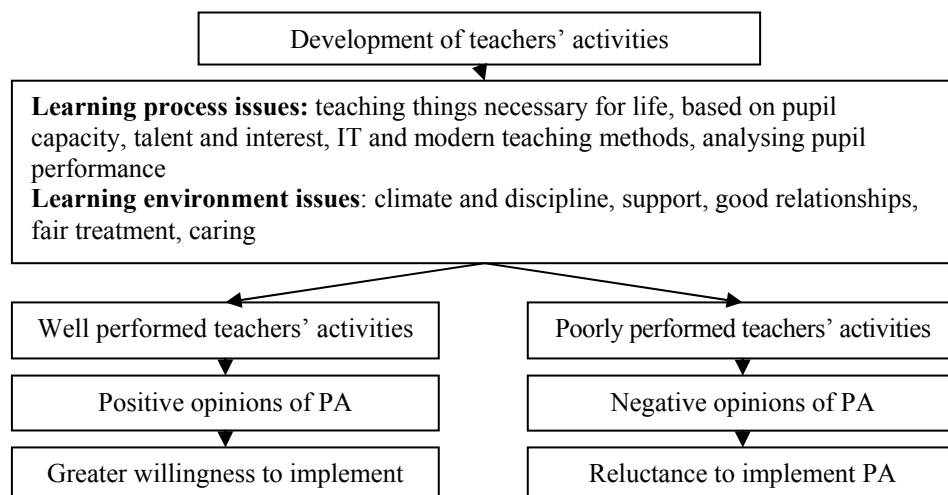
The second critical activity in the creation of a performance appraisal system is related to determining criteria based on the organisation’s objectives and the indicators for evaluating teacher performance with respect to those criteria criteria<sup>10</sup>. Despite the volume of literature on the topic of the positive effects of performance management on school performance, selecting reliable criteria for appraising the performance of teachers has remained as the most problematic and central feature in introducing performance management. As illustrated in Figure 8 (p. 67), teaching activities in developing the learning process and the learning environment are most directly related to the creation and implementation of the performance appraisal system. Therefore, this is also relevant when selecting performance appraisal criteria. Similarly, as the discussion of the educational process<sup>11</sup> in subchapter 1.1.3 indicated the close relationship between school management and teachers’ activities, this raises the question of the rela-

<sup>9</sup> Involved stands for teachers participation in the creation of the performance appraisal system, where teachers have had an opportunity to express their opinions and thoughts.

<sup>10</sup> The term “appraisal criteria” is broader than the term “performance indicator”. Indicators are measures that indicate the achievement of set criteria. However, one criteria may have multiple indicators. For example, as pupil academic performance is a criterion for appraising teacher performance, then pupil academic performance can be evaluated by several indicators (e.g. the results in the national examinations, running grades, results in standardised tests etc).

<sup>11</sup> See the educational process from Figure 4, p. 40.

relationship between teachers' activities (developing the learning process and the learning environment) and opinions about performance appraisal among pedagogues as a whole. The rationale behind the proposition about the relationship between teachers' activities and pedagogues' opinions is presented in Figure 11.



**Figure 11.** Rationale for setting proposition 2a: the potential relationships between teachers' activities and pedagogues' opinions about performance appraisal

Note: PA – performance appraisal

Source: compiled by the author based on Grote, 1996; Department of Education, 2000; Aladwani, 2001; Armenakis and Harris, 2002; Nickols, 2010

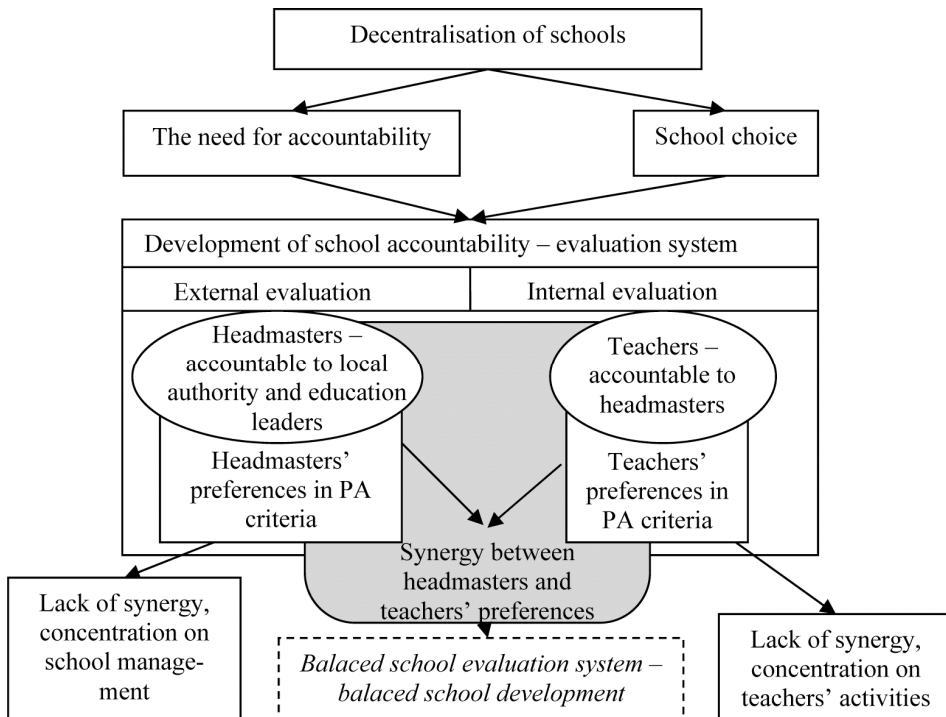
Teachers' activities are linked to performance appraisal design at many stages. Firstly, it is relevant during the creation of performance appraisal because at this stage teachers' individual behavioural expectations and their indicators are being set. Secondly, teachers' activities are relevant in the implementation of performance appraisal where teacher performance is actually evaluated. However, individual work performance traditionally involves developing the learning process and a supportive learning environment (Department of Education, 2000), and therefore, the teacher performance appraisal system primarily concentrates on measuring teachers' individual performance in creating the learning process and environment. However, Nickols (2010) has noted that appraisal systems rely on fear because the evaluatees are afraid of negative feedback about their performance. In order to avoid negative feedback, the employees are motivated to raise their performance. Therefore, based on that argument one may assume that the opinions towards the appraisal process are probably higher in schools where the likelihood of getting positive feedback on performance is high – there is no fear of making mistakes. Similarly, the opinions of performance appraisal systems implemented in schools is assumed to be higher when the appraisal criteria is in accord with the criteria that matter the most in

fashioning opinions held by pedagogues and school performance. Therefore, the following proposition was formulated:

**Proposition 2a:** *The learning process and learning environment are positively related to pedagogues’ opinions about the teacher performance appraisal implemented in their school.*

Testing this proposition provides valuable information for identifying those activities that impact teachers’ opinions about performance appraisal, but it also provides information about what activities should be taken into consideration while evaluating teachers’ performance.

However, there are other concerns in the selection of performance appraisal criteria. The rationale behind the further discussion presented in this dissertation is presented in Figure 12.



**Figure 12.** Rationale for setting propositions 2b and 2c: on school evaluation design

Note: PA – performance appraisal; The area of synergy between headmasters’ and teachers’ preferences is marked in grey

Source: compiled by the author based on Winstanley and Stuart-Smith, 1996; Kravchuk and Schack, 1996; Hansuhek, 1997; Department of Education, 2000; Leithwood and Jantzi, 2000; Brennan, *et al.*, 2003; Pont *et al.*, 2008; OECD, 2008; OECD, 2010

Thus, the rationale primarily stems from the changes taking place in the education sector, which is discussed in more detailed in subchapter 1.2.1. As schools are being decentralised, there is increased need for accountability to the state or central government for school outcomes. School headmasters are under pressure to fulfil centrally defined expectations, and therefore, to be accountable to the school keeper – the local authority and the state as the education policy developer. At the general level, school performance is evaluated according to key performance indicators (or external evaluation indicators) set by the Ministry of Education and Research<sup>12</sup>. School headmasters are therefore highly motivated to achieve well in terms of those external evaluation criteria. However, as the external evaluation criteria are universal, they do not consider the peculiarities of each individual school, nor permit a balanced school evaluation system which concentrates equally on external and internal issues of school performance. The headmasters are responsible for developing an internal evaluation system in their school in order to monitor the development of their schools more specifically. Although internal evaluation provides valuable information for dealing the strengths and weaknesses within the school, it still produces a greater workload for the headmasters and involves building up an individual performance appraisal system for teachers. At this point, headmasters have to face and solve the difficulties of performance appraisal that emanate from the unique characteristics of the education sector.

Thus, the question arises of whether or not school headmasters prefer to evaluate the achievement of their school's objectives by concentrating more on the general key performance indicators, which are much easier to follow, and which are the basis of the feedback on their work provided by the government. The question is especially relevant when analysing the results of the OECD report, which implies that the state of internal evaluation in 2007 was quite poor in many countries (OECD, 2008). In Estonia, internal school evaluation did not have a high degree of influence on the performance feedback given to schools, the appraisal of individual teachers, school budgets, teacher remuneration and bonuses nor on the assistance offered to teachers to improve their teaching skills. In addition, the results of internal evaluations are not subsequently used by the government to create comparative school performance data. However, two important characteristics of internal evaluation can be highlighted: 1) the results of internal evaluations were published in Estonia (only 4 countries out of 29 did that); and 2) internal school evaluation in Estonia had an influence on the appraisal of the performance of school management (only in 6 countries out of 29).

In addition, the data from the first OECD Teaching and Learning International Survey (TALIS) collected from school principals and teachers showed (see Table 6) that in 2007/08, external evaluation in Estonian general educational schools was emphasised more compared to internal evaluation. It reported

---

<sup>12</sup> See the list of key performance indicators (external evaluation indicators) set by the Estonian Ministry of Education and Research on pages 25–26.

that 23.9% of the respondents in Estonian schools claimed that internal evaluation had not been implemented in their schools at all in the last five years. However, external evaluation was implemented once in the last five years for 47.8% of Estonian schools. The results of the OECD survey (OECD, 2008) also show that although schools implement external evaluation, analyse national pupil performance and implement internal evaluation, these evaluation methods have relatively little influence on performance oriented actions within schools in OECD countries.

**Table 6.** Frequency and type of school evaluations based on the OECD study

	Frequency of school internal evaluations over the last 5 years (%)					Frequency of external evaluations over the last 5 years (%)					No evaluation from any source over the last five years (%)
	Never	Once	2-4 times	Once per year	More than once per year	Never	Once	2-4 times	Once per year	More than once per year	
Estonia	23.9	26.7	19.5	28.4	1.6	27.5	47.8	18.4	4.4	1.8	11.8
TALIS <sup>1</sup> average	20.2	16.2	18.3	34.9	10.3	30.4	30.8	20.5	11.4	7	13.8

Note: Percentage of teachers of general education (in primary schools) working in schools where school evaluations were conducted with the following frequency over the last five years; Internal evaluation incorporated the results of self-evaluation reports; External evaluation incorporated the results of national examinations in mathematics, science, national language and school inspections

<sup>1</sup> TALIS-OECD Teaching and Learning International Survey conducted during 2007/08.

Source: compiled by the author based on OECD, 2008

Although some authors argue that the results of standardised tests of pupil learning outcomes should be the main indicators of teacher performance (Ingvarson *et al.*, 2007), the author of this dissertation is a little worried that in Estonia too much effort is spent on the comparative analysis of national examination results. Comparing schools on the basis of examination results certainly provides additional information, but it does not fully describe a schools performance (Hansuhek, 1997; Loeb and Page, 2000; Leithwood and Jantzi, 2000). Similarly, when pupil academic performance (e.g. the results in national examination results) is valued as the most important criteria in reflecting school performance, then that may increase the risk of teachers starting to train pupils to achieve those criteria. That, however, may delay the development of general

skills (communication skills, thinking, analysing etc.)<sup>13</sup>. However, there is another explanation behind valuing the results of external evaluations – the increase in school choice.

Similarly, schools need to be accountable to parents as well, because parents can choose the school for their children (Pont *et al.*, 2008). Therefore, information about evaluations of school performance is often made available to parents and other important stakeholders. However, most the common approach is that the results of the national examinations are presented and compared with other schools. However, these are primarily used to provide parents with information before they choose a school and to deliberately encourage competition between autonomous schools. This activity is reasonable when parents have the opportunity to choose schools for their children. Table 7 provides an overview of the freedom parents in Estonia have to choose a school for their children. Irrespective of the fact that children are initially assigned a school based on school geographical catchment areas, the choice of the other schools is not restricted to the district, municipality or region. In fact, families are given the general right to enrol children in any school they wish. Thus, based on the study (OECD, 2010), families in Estonia are free to choose the best possible schools for their children.

**Table 7.** Opportunities and conditions for parents wishing to choose a public school for their child(ren) in Estonian general educational schools

<b>Terms for selecting school</b>	<b>PS</b>	<b>SS</b>
Initial assignment based on school geographical catchment area	Yes	Yes
Families are given a general right to enrol in any school they wish	Yes	Yes
Choice of other schools is restricted to the district or municipality	No	No
Choice of other schools is restricted by region	No	No
Families must apply to enrol in a school other than the one assigned to their child(ren)	Yes	Yes
Families are free to choose other schools if there are places available	Yes	Yes
Others restrictions or conditions	No	No

Note: PS – primary schools; SS – secondary schools

Source: compiled by the author based on OECD, 2010

However, schools have a material incentive to be accountable as well. This incentive arises from school financing in Estonia (see also Appendix 5). The largest part of the school budget in Estonia is determined by assignments from the government budget. The grant-in-aid from the state budget to schools is

<sup>13</sup> See a more detailed discussion about the hazards of concentrating on pupil academic performance in subchapter 1.1.3.

calculated at the governmental level, and is allocated to local authorities as a lump sum. Local authorities have the power to decide the specific allocation of the monetary resources between different schools and within the schools. However, the size of the grant-in-aid is mainly dependent on the number of pupils studying in the municipal school and on the estimated operating costs of a study place. Therefore, school monetary resources are dependent on the schools' ability to attract pupils. In summary, because parents in Estonia have the freedom to choose the school for their children and each school budget is based on the number of pupils, then headmasters are impelled to market their school to attract more pupils, especially talented pupils to their schools (Brennan, *et al.*, 2003) in order to increase the average national examination results and gain more per capita money from the government. Therefore, as the results of pupil academic performance (national examination results, current grades, grades in the final examination etc.) are easy to collect and compare between schools, then school headmasters may be motivated to evaluate the performance of Estonian general educational schools on the basis of academic performance indicators collected during external school evaluations. The concentration on academic performance indicators in evaluating school performance can also be recognised in several studies abroad. For example, as highlighted in the first part of the theoretical section (see Table 3, p. 39), studies of school performance concentrate on measuring pupil academic performance using such figures as the results in national examinations, standardised tests and grades. Therefore, the author proposes the following:

**Proposition 2b:** The achievement of school objectives is primarily evaluated according to pupil academic performance.

This concentration on external evaluation may emanate from the difficulty in selecting acceptable teacher performance appraisal criteria. Many sources present the following list of principles that need to be taken into consideration in selecting teacher performance appraisal criteria (Globerson, 1985; Kravchuk and Schack, 1996; Storey, 2002; Modell, 2004; Neely *et al.*, 2005):

- Teacher performance appraisal criteria should be directly related to the organisation's strategy and must be chosen from the organisation's objectives.
- Performance appraisal criteria should be designed so that they stimulate continuous improvement rather than simply monitor.
- The purpose of each performance criteria must be clear, the measures should be simple and easy to use and provide fast feedback.
- Performance appraisal criteria must make it possible to compare the performance of other teachers and also to make comparisons at different moments.
- Both objective (quantitative) and subjective (qualitative) performance criteria should be taken into account.

- A performance appraisal system should be adaptable and flexible, meaning that the selection of performance appraisal criteria should change as circumstances change.

However, a conflict may emerge from the different roles and expectations of teachers and headmasters. As school headmasters are responsible for school performance in general then teachers are accountable to headmasters for their work in managing the learning process and environment. However, based on the different aims of the jobs of teachers and headmasters, there is a role conflict written into the process of creating a shared performance appraisal system in schools. For instance, the study by Department of Education in England (2000) argues that teacher performance appraisal criteria should focus more directly on what pupils are actually doing in classrooms as a result of the learning conditions established by teachers. Similarly, as performance appraisal as a management tool is related to evaluating the individual performance of teachers (see also Figure 3, p. 28), then it is assumed that teachers' preferences in selecting performance appraisal criteria will be more closely linked to their individual activities in the classroom rather than their work in school management or their work in teams. Headmasters on the other hand have to see the overall picture of the school's development, which provides good reason to believe that they would emphasise criteria related to school management and development. As school headmasters have to aim for a balanced school development, then this raises the issue of motivating teachers to participate in school management.

The absence of a single view of the organisation where only the manager's view is represented is considered to be one of the common flaws of performance appraisal (Winstanley and Stuart-Smith, 1996; Kravchuk and Schack, 1996; Ittner and Larcker, 2003). For example, in addition to the fact that it may result in too much attention on aspects of school management, it may create a perceived role-based conflict because when teachers fail to achieve objectives set by headmasters that are not recognised by teachers, they will get the message that their performance is unsatisfactory (Chamberlin *et al.*, 2004; Kuhmerker and Hartman, 2007). Thus, both school headmasters and teachers should agree upon the most important objectives for their schools. The performance appraisal system must support the achievement of school performance and motivate teachers to achieve that goal. Therefore, many authors emphasise (Jackson, 1988; Williams and Levy, 1992, Saunders, 1999; Kelly *et al.*, 2008) that teacher performance appraisal systems should be shared with teachers, from setting the aims to disseminating the outcomes. However, as performance appraisal systems should be created in cooperation with teachers and headmasters, then the developed appraisal system must achieve a synergy between the views of teachers and headmasters. It is especially important in the context of schools with multiple objectives and multiple outcomes. In the context of this dissertation, providing proposals for selecting teacher performance appraisal criteria is relevant; therefore, the question arises of teachers' preferences in appraising their work performance:



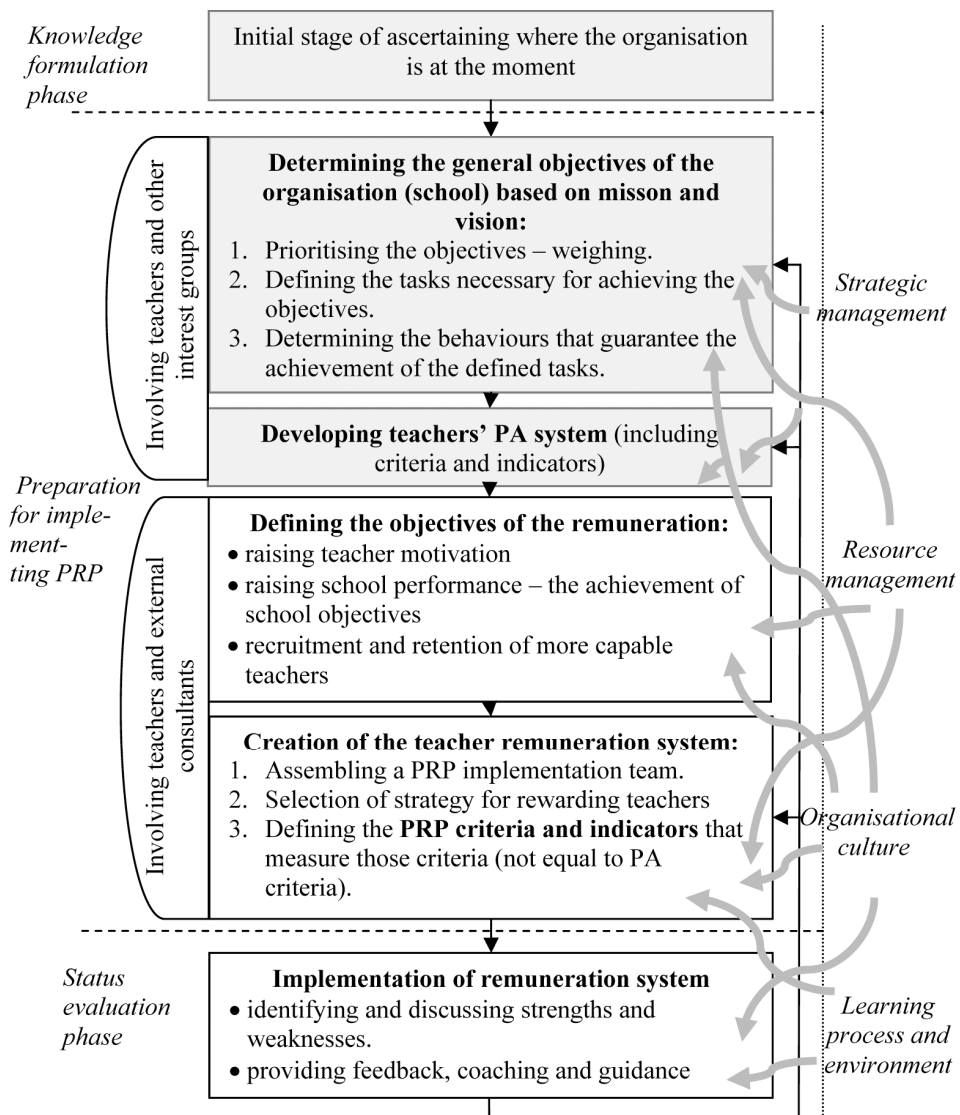
**Proposition 2c:** Teachers' preferences in selecting teacher performance appraisal criteria are different from headmasters' preferences.

Therefore, to conclude, there are several critical aspects that may cause negative opinions among pedagogues about teacher performance appraisal as a management tool, and therefore, about performance management in general. However, in order to develop proposals for developing a teacher performance appraisal system in Estonian general educational schools, knowledge of the practices implemented in those schools would provide relevant information.

### **1.2.3. Stages and principles for performance-related pay design and alternatives for rewarding teachers on the basis of their performance**

The current subchapter concentrates on explaining the stages, principles (see Figure 13) and alternatives for developing a remuneration system for rewarding teachers' performance, while also pointing out research propositions concerning teacher performance-related pay. It makes it possible to understand what the critical activities in the performance-related pay designs are and how school management and teachers' activities relate to creating an accepted remuneration system. Teacher salary levels in the Estonian education system are determined by the occupational levels for teachers and the minimum salary level for teachers – the minimum increment for homeroom teachers is enacted by legislation (see Appendix 5). However, local authorities have the right to make decisions regarding pedagogues and headmasters (salary increases, differentiating salary, lowering the workload, guaranteeing salary increases for teachers with higher occupational levels) based on local needs. But as school management is the responsibility of headmasters then they have considerable say in the design of teachers' salaries. Therefore, raising school performance via developments in remuneration for teachers is very topical in the Estonian education sector.

The process of developing remuneration for teachers is linked to the design of a teacher performance appraisal system. As in teacher performance appraisal, in order to define the objectives of teacher remuneration and develop a system that is supportive of school performance, information about the organisation's current health, the main objectives that need to be achieved in order to improve school performance, and essential tasks and behaviours of teachers, should be ascertained. For example, in performance-related pay, individuals agree upon organisational objectives and targets, and their performance is assessed in light of their achievement. Thus, the quality of the links established between performance-related pay and the schools' strategic aims are crucial to raising organisational performance (Thorpe and Homan, 2000). Therefore, the success of performance-related pay may largely depend on the performance appraisal system developed, as it provides important input for resolving the remuneration issue.



**Figure 13.** The stages in developing a system for remunerating teachers based on the example of performance-related pay

Note: PA – performance appraisal; PRP – performance-related pay; Different phases in the framework are separated using a horizontal discontinuous line; The connections between school management and teachers' activities and the development stages of performance-related pay are showed using grey arrows; The stages already implemented during teacher performance appraisal design are marked with a grey background

Source: compiled by the author based on Thorpe and Homan, 2000; Heinrich, 2002; Hanley and Nguyen, 2005; Chang and Hahn, 2006

For example, the findings from research by Chang and Hahn (2006) compiled in 28 companies and involving 656 employees show that performance-related pay enhances employee perception of distributive justice only when there is a commitment to the performance appraisal practice. The hypothesis was tested through regression analysis. The study found a significant interaction effect between performance-related pay and the commitment appraisal practice ( $B=0.45$ ,  $p=0.01$ ). Therefore, Chang and Hahn (2006) concluded that managers in the companies in the study should consider implementing commitment appraisal practices when they want to utilise performance-related pay.

Although all teacher performance appraisal criteria are not taken as the basis for rewarding teachers, but the selection of some of those criteria and additional criteria are used, one may still assume that how employees perceive the performance appraisal practice is an important determinant of their perception of distributive justice, regardless of what type of compensation scheme is utilised. Therefore, all the mistakes made in performance appraisal may transfer to performance-related pay. Therefore, the author proposes:

**Proposition 3a:** Teachers' opinions about the performance appraisal system are positively related to their opinions about performance-related pay.

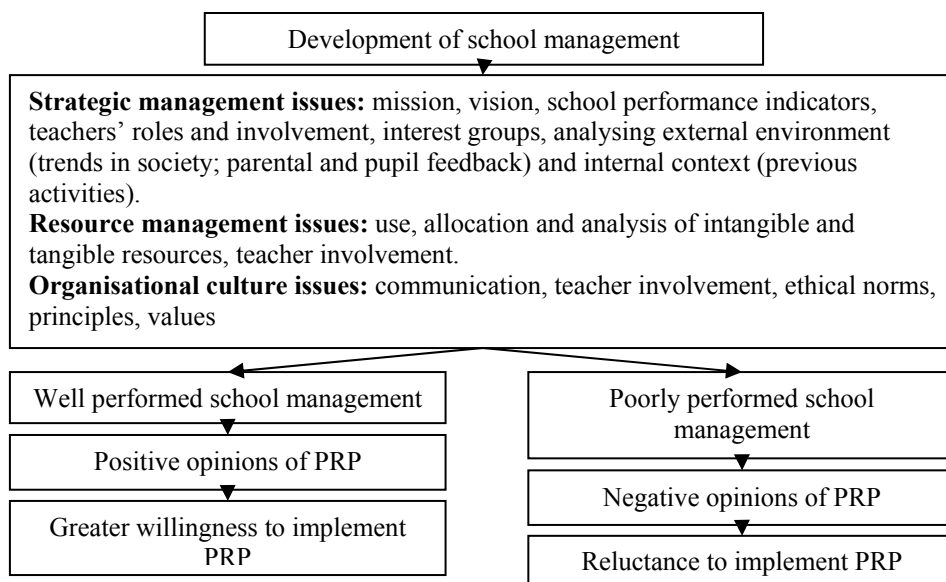
As the design of performance-related pay is linked to the performance appraisal system, then the question of the importance of school management in remuneration also arises. Strategic management issues are central in the context of teacher performance-related pay. When considering performance-related pay as a compensation instrument, the logic behind performance-related pay is to spread salaries on the basis of performance that is then linked to the organisation's objectives (Hanley and Nguyen, 2005). Thus, performance-related pay should be related to the strategy and development plans at the school and all employees should be aware of what activities are rewarded in light of the schools' objectives. In addition to the relevance of resource management in the strategic management stage, where resources are allocated between important tasks for achieving school goals, resource management becomes topical when defining the objectives and establishing the teachers' performance-related pay. As Heinrich (2002) indicated, outcome-based performance management involves budgeting, in particular performance-based budgeting, allowing monetary incentives for outstanding performance in achieving the organisation's objectives. However, implementing performance-related pay is often rejected because of the fear that organisations do not have enough monetary resources to reward employees on the basis of their performance (Ingraham, 1993). For example, the study by Mardsen and French (1998) indicated rather negative findings about performance-related pay among English schools. One possible explanation for these rather negative findings is that teachers are generally sceptical as to whether additional effort will be rewarded by performance pay. A lack of clarity may leave them uncertain as to how they should perform; they may not believe they are capable of achieving the necessary goal (perhaps because of

a lack of resources, or training) or they may believe their school cannot afford it (Marsden and French, 1998). The lack of money available to drive the performance management system also exacerbated the major focus of managerial dissatisfaction in the study by Lewis (1998). Given the unique nature of public organisation revenue streams (e.g. taxes), institutional rules have been established that constrain public performance-related pay. In the public sector it is unlikely that performance-related pay will be designed in such a way or at levels of pay increments such as 10 per cent to 15 per cent annually that expectancy or reinforcement theory requires, and as is possible in the private sector (Perry *et al.*, 2009).

Therefore, the fear of performance-related pay may be the result of a lack of money in constrained budgets (Sanderson, 2001). However, realising the expected benefits of better resource management – clearer sense of direction, increased accountability and responsibility, greater financial and administrative flexibility, and improved long-term planning – decreases the fear of performance-related pay (Caldwell, 1998). The quality of resource management may have an effect on teacher remuneration because headmasters set the objectives of remuneration and select a remuneration strategy based on their knowledge of current and future school resources.

Thirdly, as in the performance appraisal process, organisational culture is related to all the steps, as it creates the necessary atmosphere for developing the remuneration system and subsequently running system. Organisational culture creates the goal orientation in the organisation (Lancer Julnes and Holzner, 2001), which is a necessary assumption in performance-related pay. For example, performance-related pay communicates information about the performance expectations of the organisation, it helps the organisation become more results or performance oriented, or it supports existing cultures or values which are already characterised by high performance, innovation, quality and teamwork; it can also emphasise the importance of teamwork as well as individual effort (Thorpe and Homan, 2000). Therefore, the influence of organisational culture may be twofold. Firstly, it communicates the expected behaviour within the organisation, and secondly, the choice of remuneration strategy and whether to reward teachers on the basis of their performance is dependent on the organisational culture. Some organisational cultures are just more willing to take risks and are more performance oriented.

Therefore, the author questions whether school strategic management (clearly set mission, vision, objectives, tasks and behaviours), resource management (the financing of different activities in the school strategic plan, information about resources for deciding the objectives of teachers salary system and remuneration strategy) and organisational culture (creating goal orientation in the organisation and a supportive atmosphere for performance-related pay) have an influence on opinions about performance-related pay as a management tool held by pedagogues in general. The rationale for this discussion is presented in Figure 14.



**Figure 14.** Rationale for setting proposition 3b: the potential relationships between school management and pedagogues’ opinions about performance-related pay

Note: PRP – performance-related pay

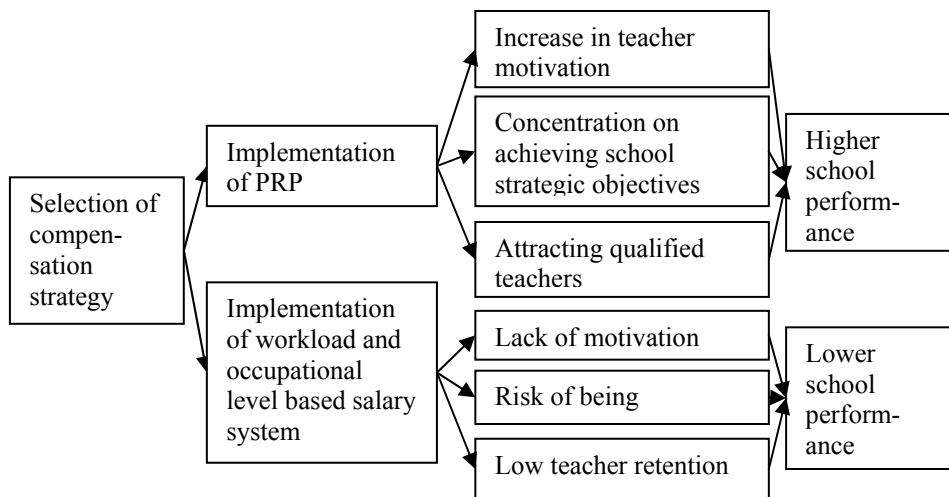
Source: compiled by the author based on Caldwell, 1998; Marsden and French, 1998; Mwita, 2000; Lancer Julnes and Holzner, 2001; Aladwani, 2001; Armenakis and Harris, 2002; Heinrich, 2002; Martins and Terblanche, 2003; Lohman *et al.*, 2004; Hanley and Nguyen, 2005; Johnson *et al.*, 2006; Krishnapillai, 2009

Therefore, the following proposition is formulated:

**Proposition 3b:** *Strategic management, resource management and organisational culture* are positively related to pedagogues’ opinions about the performance-related pay implemented in their schools.

Evidence supporting the aforementioned proposition provides useful information about what managerial aspects influence opinions of performance-related pay among pedagogues, and therefore, makes it possible to highlight managerial suggestions for designing a remuneration scheme for teachers.

An important part of designing a remuneration scheme for teachers is selecting the proper reward strategy. The following discussion is illustrated by Figure 15. During this dissertation the author focuses on performance-related pay.



**Figure 15.** Rationale for setting propositions in group 4: the potential relationships between performance-related pay and school performance indicators

Note: PRP – performance-related pay

Source: Compiled by the author based on Hanushek, 1997; Darling-Hammond, 2000; Eberts *et al.*, 2002; Johnson and Birkeland, 2003; Smithers and Robinson, 2003; Rhodes *et al.*, 2004; Hanushek and Rivkin, 2007; Kingdon and Teal, 2007; Figlio and Kenny, 2007; Atkinson, 2009

As mentioned, possible reasons for deciding to implement performance-related pay in schools<sup>14</sup>, teachers' salaries can be used to achieve several objectives. The most common assumption is that the adoption of performance-related pay leads to improved school performance. Performance-related pay encompasses the notion of “payment by result”, involving financial reward based on an assessment of individual performance (Hanley and Nguyen, 2005). Therefore, performance-related pay raises teacher motivation to increase school performance as they are being offered an incentive to achieve this target. However, as performance-related pay is built on the schools' general objectives, and performance-related pay criteria are selected in order to help achieve those objectives, then performance-related pay allows schools to concentrate more on their strategic aims.

There are several studies aimed at determining the relationships between performance-related pay and school performance<sup>15</sup>. The results of the study by Eberts *et al.*, (2002) suggests that performance-related pay incentives can act as motivational agents to produce directly rewarded outcomes. By comparing means across two schools they found that individual incentive programmes for teachers were associated with a significant fall in drop-out rates. However, individual incentive programmes were unrelated to pupil achievement. Research by

<sup>14</sup> See the discussion of the gains from performance-related pay from subchapter 1.1.2.

<sup>15</sup> See also a more detailed discussion about the relationships between teacher salary and school performance from subchapter 1.1.2.

Darling-Hammond (2000), Reichardt (2001), Cavalluzzo (2004) and Rivkin *et al.* (2005) indicate that teacher quality is one of the greatest determinants of pupil achievement. However, Hanushek and Rivkin (2007) assert that in order to improve teachers, quality salaries should be made competitive. Improvement in teacher quality, however, is often seen to be obtained through performance-related pay (Kingdon and Teal, 2007; Figlio and Kenny, 2007; Atkinson, 2009). Research by Darling-Hammond (2000) indicated that the effects of well-prepared teachers on pupil achievement can be stronger than the influences of pupil background factors, such as poverty, language background and minority status. Although Hanushek (1997) found a positive correlation between teacher salaries and pupil performance, he emphasised that there was very weak support for the notion that simply providing higher salaries or greater overall spending would lead to improved pupil performance. Similarly, they did not find teachers being paid according to their occupational level and workload very effective. However, this is usually the most common solution for rewarding teachers. As experience and teacher training are the primary determinants of a teacher's position on a salary scale, it is often assumed that higher salaries raise quality because more experienced and better educated teachers earn more and perform higher (Hanushek, 1997). Instead, a salary system concentrating on occupational level is demotivating for teachers of lower occupational rank and does not facilitate the sustainable development of teachers. Once the highest occupational level is achieved, the motivation to increase school performance decreases. Linking the teacher reward system with workload may create the risk of intentional overworking, which may cause stressed teachers and may end in lower educational quality. Finally, Hanushek and Rivkin (2007) argued that the structure of a salary scale did not constitute evidence that an increase in teachers' salaries would definitely improve their performance. Furthermore, they concluded that general salary increases for teachers would be both expensive and ineffective. They emphasise that compensation and career advancement should be linked more closely with teacher ability to increase pupil performance. Therefore, the best solution is not a general increase in salaries, but implementing a performance-related pay system. Performance-related pay is a good tool for motivating teachers especially in the context of restricted budgets because performance-related pay schemes save money because the budget does not have to be spread so widely (Chamberlin *et al.*, 2004).

One of the objectives of teacher remuneration may be the recruitment and retention of more capable teachers (Darling-Hammond, 2000; Johnson and Birkeland, 2003; Rhodes *et al.*, 2004; Smithers and Robinson, 2003). In addition to attracting teachers, the motivational gains of choosing to teach serve as a significant deterrent to selecting or staying in that highly demanding profession (Johnson and Birkeland, 2003)<sup>16</sup>. Demotivatingly low salary level may be one of the reasons why the presence of teachers with the required qualification is

---

<sup>16</sup> See more detailed discussion about the relationships between teacher salary and teacher recruitment and retention from subchapter 1.1.2 and studies from Appendix 2.

problematic in schools. The OECD survey (OECD, 2010) indicates that the salaries of teachers with at least 15 years experience in primary schools range from less than USD 16,000 to USD 54,000. However, teachers in Estonia and Hungary are the least paid. The study by Abroid (2008) also pointed out that teachers in Estonia are underpaid, and therefore, their motivation and role perceptions have decreased over the years. The average monthly gross earnings for teachers in 2010 is 699 euros<sup>17</sup>. However, the overall mean of the Estonian average monthly gross earnings is 792 euros, which is about 12% higher than the average monthly gross-earning in the education sector. The results also indicate that the education sector in Estonia is among the six lowest paid economic sectors in Estonia.

However, the poor condition of the employment of labour force can be recognised from statistics. Table 8 provides an overview of the employment of Estonian inhabitants in the education sector.

**Table 8.** Statistics of employment in the Estonian education sector in 2011 with respect to age group, district and gender

Employment data for 2011	Age groups			Residence		Gender	
	15–24	25–49	50–74	Non-rural areas	Rural areas	Male	Female
Employed in the education sector % <sup>1</sup>	4.5 (↓4.3)	8.1 (↓8)	13.4 (-)	8.6 (↓10.4)	11.3 (↑8.7)	2.8 (↓15.2)	15.9 (-)
	9.4 (↓4.1)						
Employed in the education sector <sup>2</sup>	2.5 (↑13.6)	29.6 (↑3.6)	25.1 (↑8.2)	37.1 (↓4.9)	20.1 (↑17.5)	8.4 (↓7.7)	48.8 (↑3.8)
	Total 57.2 (↑2)						

Note: <sup>1</sup>all fields of activities =100%; Statistics presented in table: % of people employed in the education sector (change compared to 2010 measured in %; ↑ - increase compared to 2010; ↓ - decrease compared to 2010; “-“ unchanged); for example: 4.5 (↓4.3)

<sup>2</sup>number of people employed (in thousands); Statistics presented in table: number of employed in the education sector (change compared to 2010 measured in %; ↑ - increase compared to 2010; ↓ - decrease compared to 2010; “-“ unchanged); for example: 2.5 (↑13.6).

Source: compiled by the author based on the employment data available in the database of Statistics Estonia ([www.stat.ee](http://www.stat.ee))<sup>18</sup>

<sup>17</sup> While calculating the average monthly gross-earnings in the Estonian education sector, data used were taken from the database of Statistics Estonia: Average monthly gross- and net-earnings with respect to economic sector (database No. PA5211).

<sup>18</sup> While composing Table 8, the following data are used from the database of Statistics Estonia: Employment with respect to economic sector and age (database No. TT0202); Employment with respect to economic sector and residence (database No. TT0203); Employment with respect to economic sector and gender (database No. TT0201).



Thus, although 9.4% of the labour force in Estonia is employed in the education sector, a downward trend can be recognised compared to 2010. Employment in the education sector has decreased 4.1% in 2011. When analysing employment in the education sector with respect to age, residence and gender then unfortunately, it is possible to conclude that school staff in the Estonian education sector is going through a process of aging and feminising and in districts where it is easier to find a new job (non-rural areas), the retention of teachers has decreased.

Worrying figures can be recognised from the data gathered by the Ministry of Education and Research. For example, the presence of teachers with the required qualifications in the 7th–9th grades is 84.9% and 90.1% at secondary school level. However, the required number of qualified teachers is below 50% in many rural schools<sup>19</sup>. Thus, the demotivating influence of a low salary in Estonian education can already be recognised in these employment statistics. Therefore, the challenge for the Estonian education system is to raise the position and reputation of the teaching profession. However, this raises the question of whether rewarding teachers on the basis of their performance would be a solid tool for achieving this goal. Therefore, the following propositions are formulated:

**Proposition 4a:** Schools that reward teachers on the basis of their performance have higher results in performance indicators that evaluate pupil academic performance.

**Proposition 4b:** Schools that reward teachers on the basis of their performance have more teachers with the required qualification.

During the creation of a performance-related pay system for teachers, it is essential to realise that there are several alternatives (see Table 9). Schools have four alternatives for paying teachers according to performance. Based on the number of subjects, teachers can be rewarded at the individual or group level (Odden and Kelley, 2002). Based on payment frequency, performance-related pay can be allocated regularly or as a one-time incentive (Differential Teacher Pay Initiatives..., 2006). Individual performance-related pay concentrates on each individual's work. Individual performance may be rewarded on a regular basis, which means that the teacher's work is continually appraised and bonuses offered for exemplary activity and performance.

---

<sup>19</sup> This data is provided by the Estonian Ministry of Education and Research based on data available in the Estonian Information System on Education (EHIS – Eesti Hariduse Infosüsteem, [www.etis.ee](http://www.etis.ee)).

**Table 9.** Alternatives for implementing performance-related pay for rewarding teacher performance in schools

Performance-related pay		
Regular bonus	Group	Individual
		<ul style="list-style-type: none"> <li>• Bonus for completing tasks and objects set for groups</li> </ul>
Incentive bonus (one-time payment)	<ul style="list-style-type: none"> <li>• Gain-sharing</li> <li>• School incentive shared between teachers</li> </ul>	<ul style="list-style-type: none"> <li>• Incentive for overtime work</li> <li>• Incentive for activities outside lessons</li> <li>• Incentive for performance which exceeds standards.</li> </ul>

Source: compiled by the author based on Solmon and Podgursky, 2000; Odden and Kelley, 2002; Differential Teacher Pay Initiatives..., 2006; Jensen *et al.*, 2007.

Similarly, a regular bonus may be based on an improvement in the teacher’s competence. Individuals may also be offered incentive bonuses for overtime work, activities outside lessons or, for example, outstanding work performance. It is important to note that the main idea behind implementing individual pay is that paying teachers is based on direct measures of their performance (Muralidharan and Sundararaman, 2009). However, opponents of individual-based performance awards argue that it is very difficult to accurately assess the progress made by pupils, creating an inaccurate measure of teacher performance (Odden and Kelley, 2002; Azordegan *et al.*, 2005).

The aforementioned was also one reason why, despite great expectations in performance management, the new approach involved a lot of resistance and criticism in English schools where they started to implement performance management. Teachers were very critical of performance management because they argued that in schools, the nature of the task is too diffuse to evaluate objectively and the allocation of responsibility for outcomes far less certain (Storey, 2000; Bartlett, 2000; Storey, 2002). Teachers are collegially responsible and the educational process takes years and is affected by contributions from many teachers (Storey, 2000). In addition Solmon and Podgursky (2000) argue that individual performance-related pay encourages competition rather than collaboration among teachers, which may have a contrary influence on school and pupil performance. However, the advocates of individual pay note that individually-based awards may indirectly encourage collaboration, as the benefits are available to all teachers (Solmon and Podgursky, 2000).

However, while it is argued that implementing performance-related pay would produce unhealthy competition and increase cooperation between teachers, then cooperation between teachers can be emphasised by offering group bonuses as well. Group-based performance awards encourage the collaborative

nature of teaching. Advocates of group rewards point out that pupil achievement is rarely due to a single teacher, but depends on all current and past teachers. Similarly, they point out that when a reward is based on the behaviour and performance of other teachers, each will pressure the others to do their best and co-operate in maximising pupil achievement (Solmon and Podgursky, 2000). However, group rewards may increase the problem of free-riders – teachers who do not react to group incentives because they hope that other teachers will work harder to achieve the desired outcomes (Muralidharan and Sundararaman, 2009). They, however, will benefit from the success anyway.

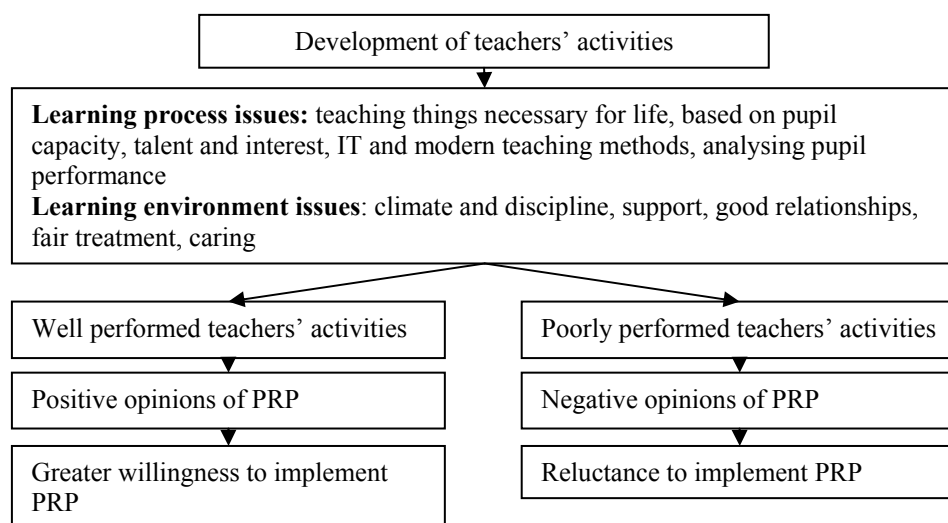
Regular group bonuses are mainly used to reward certain project teams. However, good examples of incentive group bonuses are gain-sharing and other incentives based on collaborative effort. For example, a one-time incentive may be offered to teachers for outstanding group performance in raising pupil academic performance. Gain-sharing refers to performance-related pay plans in which financial rewards for employees are linked to the performance of the entire unit (Welbourne *et al.*, 1995). Gain-sharing is used to get higher levels of performance through the involvement and participation of teachers (Albers Mohrman *et al.*, 1992). In a typical gain-sharing plan, employees are asked to suggest improvements and they share in any performance improvement the organisation makes.

However, in order to develop motivational remuneration, headmasters should understand teacher motivation in order to design a system that would lead to higher levels of achievement among teachers. Expectation theory by Vroom explains how a compensation system could improve the motivation of individuals (Carrher, 2011). Vroom emphasised the fact that in order to motivate employees the effort put in by the employees – the performance generated – and the motivation must be linked to one another (Arnold, 1981). Thus, according to this theory, teachers can be motivated to do something if they believe: (Vroom *et al.*, 2005):

- 1) their effort will affect performance positively;
- 2) their favourable performance will result in a desirable reward;
- 3) the reward will satisfy an important need;
- 4) their desire to satisfy the need is strong enough to make the effort worthwhile.

Therefore, the assumption regarding the implementation of monetary rewards in schools is that the financial incentive should be correlated with the performance outcome, and teachers should believe that performance-related pay is a suitable management tool for motivating them. Thus, for the individual performance-related pay scheme to be effective, teachers must have an effect on pupil attainment, must respond to financial incentives, must respond to performance-based remuneration and within this, to individual performance-related pay schemes (Burgess *et al.*, 2001). However, the effort of teachers is based on the evaluation of individual performance. Therefore, the key for an individual performance-related pay scheme to be effective is a fair and understood evaluation

system. Furthermore, one of the most frequently cited reasons for teacher opposition to performance-related pay is that it is difficult to evaluate teacher performance accurately (Milanowski, 2007). Furthermore, evidence from a study by Ingvarson (2007) indicates that opinions of performance-related pay greatly depend on the validity and reliability of the indicators used to assess performance. Therefore, the issue here is how to find fair performance-related pay criteria that is accepted by all involved. The rationale behind the proposition about the relationships between teachers' activities and pedagogues' opinions about performance-related pay, which allows us to understand the importance of the learning process and the learning environment in designing performance-related pay, is presented in Figure 16.



**Figure 16.** Rationale for setting propositions 5a: the potential relationships between teachers' activities and pedagogues' opinions about performance-related pay

Note: PRP – performance-related pay

Source: compiled by the author based on Department of Education, 2000; Aladwani, 2001; Armenakis and Harris, 2002; Nickols, 2010.

Therefore, based on the model of the educational process<sup>20</sup> and the model of teacher effectiveness (Department of Education, 2000), teachers' individual pay primarily focuses on the processes that form the basis of school outcomes – the learning process and environment – which are important aspects of teachers' activities. Teachers' activities are linked to performance-related pay during the creation of performance-related pay because at this stage the expected level of the behaviour of teachers (base pay requirements) and indicators for rewarding performance that exceeds the standard are set. Likewise, teachers' activities are

<sup>20</sup> See the educational process in Figure 4, p. 40.

relevant in the implementation of performance-related pay where teachers' performance is actually rewarded. The relationship between the teachers' salary and their activity (learning process and learning environment) stems primarily from the fact that the effort is seen as a function of the value of reward and perceived effort-reward probability. Effort results in a performance, however, this is influenced by each teacher's personal abilities and traits and their perception of their own role (Ramlall, 2004). As equity theory claims, individuals respond to unfair situations as they feel unsatisfied when they believe that they are not being treated equitably (Carragher, 2011). Therefore, in a well-developed learning environment and learning process, teachers are expecting to be paid according to their effort in developing activities. However, because the work of teachers mostly involves developing the learning process and environment, then performance-related pay criteria that measure teacher achievement are mainly selected from characteristics of the learning process and learning environment (see also Figure 13, p. 82). Therefore, the question of the relationship between teachers activities (learning process and learning environment) and pedagogues' opinions provides valuable information about which teachers' activities would influence pedagogues' opinions to performance-related pay, and therefore, make the implementation of performance management much easier, because favourable opinions help introduce performance-related pay in organisations (Aladwani, 2001). It also provides a reference for the performance-related pay criteria on the basis of which teachers could be rewarded. Therefore, the issue here is whether and how does the learning process and learning environment influence pedagogues' opinions of performance-related pay as a management tool, and this is the basis of the following proposition:

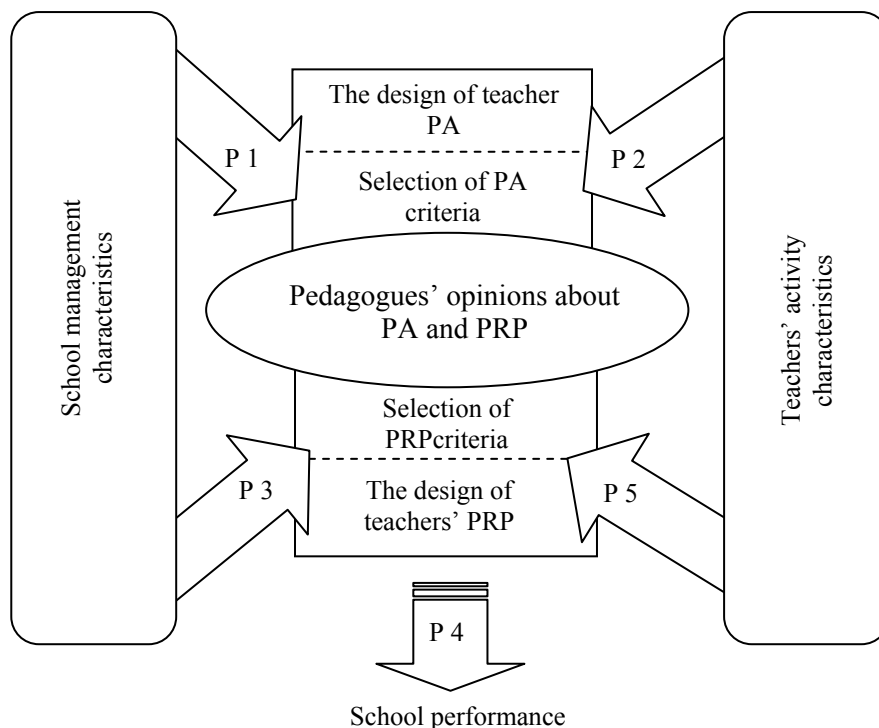
**Proposition 5a:** *The learning process and learning environment are positively related to pedagogues' opinions about the performance-related pay implemented in their schools.*

Inappropriate indicators will run the risk of promoting and, in the context of performance-related pay, rewarding activity which may be either irrelevant to organisational success or even counterproductive (Cutler and Waine, 1999). As highlighted in the theoretical section (see subchapter 1.1.2.), individual performance-related pay concentrates on each individual's work effort. Therefore, it is possible to propose that based on the main goals of the work of teachers, their preferences in regard to performance-related pay criteria may be more related to their individual performance in the classroom in developing the learning process and environment.

**Proposition 5b:** Teachers' preferences in selecting criteria for rewarding their work are more directly linked to their work in the classroom.

The propositions for exploratory study were formulated and assembled as a research framework, which is presented in this chapter (see Figure 17). Hence,

the core of this study is the measurement of teachers' and headmasters' opinions, as people act in ways that are in accord with their opinions, and positive opinions help introduce reforms in organisations (Aladwani, 2001). The empirical study of this dissertation can be divided into two parts. The first part relates to teacher performance appraisal and the second to teacher performance-related pay.



**Figure 17.** Framework and propositions for the empirical study of teacher performance appraisal and performance-related pay in Estonian general educational schools

Note: PA – performance appraisal; PRP – performance-related pay; P – proposition or proposition group; P1: school management to do with opinions about PA; P2: PA criteria; P3: school management issues to do with opinions about PRP; P4: relationship between PRP and school performance; P5: PRP criteria

Source: compiled by the author

Table 10 summarises all the research propositions which were formulated in the theoretical part to investigate teacher appraisal and remuneration in performance management using the example of Estonian general educational schools.

**Table 10.** Propositions formulated for empirical analysis

Category	Subcategory	Proposition
Propositions related to PA	School management issues to do with opinions about PA	<b>Proposition 1a:</b> Strategic management, resource management and organisational culture are positively related to pedagogues' opinions about the teacher performance appraisal implemented in their schools.
		<b>Proposition 1b:</b> Teacher involvement in the process of creating the performance appraisal is positively related to teacher opinions about the performance appraisal system implemented in their school.
Propositions related to PA	PA criteria	<b>Proposition 2a:</b> The learning process and learning environment are positively related to pedagogues' opinions about the teacher performance appraisal implemented in their schools.
		<b>Proposition 2b:</b> The achievement of school objectives is primarily evaluated according to pupil academic performance.
		<b>Proposition 2c:</b> Teachers' preferences in selecting teacher performance appraisal criteria are different from headmasters' preferences.
Propositions related to PRP	School management issues to do with opinions about PRP	<b>Proposition 3a:</b> Teachers' opinions about the performance appraisal system are positively related to their opinions about performance-related pay
		<b>Proposition 3b:</b> Strategic management, resource management and organisational culture are positively related to pedagogues' opinions about the performance-related pay implemented in their schools.
	Relationships between PRP and school performance	<b>Proposition 4a:</b> Schools that reward teachers on the basis of their performance have higher results in performance indicators that evaluate pupil academic performance.
		<b>Proposition 4b:</b> Schools that reward teachers on the basis their performance have more teachers with the required qualifications.
	PRP criteria	<b>Proposition 5a:</b> The learning process and learning environment are positively related to pedagogues' opinions about the performance-related pay implemented in their schools.
		<b>Proposition 5b:</b> Teachers' preferences in selecting criteria for rewarding their work are more directly linked to their work in the classroom.

Note: PA – performance appraisal; PRP – performance-related pay

Source: compiled by the author

All the propositions in Figure 17 and Table 10 explain the appraisal and remuneration aspects of performance management – teacher performance appraisal

and performance-related pay in Estonian general educational schools. More precisely:

- The relationships between school management characteristics and the opinions of teachers about performance appraisal implemented in their schools will be found (P1a). The relationship between teacher involvement in the process of creating a performance appraisal system and teacher opinions about the performance appraisal system implemented in the schools studied (P1b) will be assessed using the example of Estonian general educational schools.
- In order to propose performance appraisal criteria, the relationship between the characteristics of teachers' activities and pedagogues' opinions about teacher performance appraisal implemented in schools (P2a) will be identified. The school performance indicators (P2b), headmasters' and teachers' preferences in selecting performance appraisal (P2c) will be determined and compared.
- In order to ascertain essential managerial issues in developing performance-related pay, the relationship between the teachers' opinions about performance appraisal and opinions about performance-related pay will be discovered (P3a). In addition, the relationship between the characteristics of school management and pedagogues' opinions about the performance-related pay implemented in their schools (P3b) will be identified.
- The relationship between the implementation of performance-related pay and school performance indicators related to pupil academic performance (average national examination results, percentage of pupils continuing studies on the next school level and academic performance on the next level of education) (P4a) and the presence of teachers with the required qualifications will be explored (P4b).
- In order to propose performance-related pay criteria, empirical evidence about the relationship between the characteristics of teachers' activities and pedagogues' opinions about performance-related pay implemented in their schools (P5a) will be discovered. Teachers' preferences in selecting performance-related pay criteria (P5b) will be determined and compared.

As introducing teacher performance appraisal is linked to the characteristics of school management, then the author firstly proposes that school management issues influence pedagogues' opinions towards performance appraisal (P 1). This assumption provides valuable information about which school management characteristics and critical activities would make the implementation of performance appraisal easier and should therefore be taken into consideration while implementing the appraisal aspects of performance management in Estonian general educational schools. In general, positive opinions towards performance appraisal create favourable conditions for its implementation, which is also assumed to have a positive impact on school performance. But it also works vice versa, which means that the implementation of performance



appraisal in Estonian general educational schools impacts both teachers' and headmasters' opinions about this management tool. For example, when teachers are not involved in the process of creating performance appraisal then their opinions about the teacher performance appraisal system may be lower. Certainly, the most difficult part in creating a performance appraisal is the selection of performance appraisal criteria (P2) that provide an objective overview of the teachers' performance.

The second part of this dissertation concentrates on developing performance-related pay. There are several managerial aspects that need to be taken into consideration here as well (P3). The relationship between performance appraisal and performance-related pay emerges at the beginning of performance-related pay design. In order to define how one system affects another, the question arises of whether teachers' negative opinions about performance appraisal cause negative opinions about performance-related pay. While designing the performance-related pay for teachers, the relationship between school management and opinions about performance-related pay should also be recognised in order to determine critical aspects of school management in designing and implementing the remuneration aspects of performance management in Estonian general educational schools.

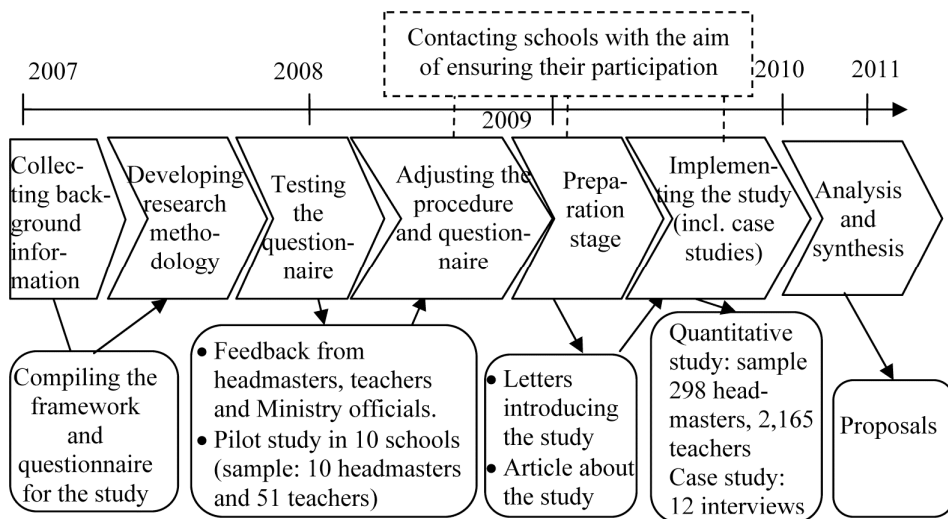
Certainly, there would be no point in implementing performance-related pay, if it did not have any influence on school performance. Therefore, the Estonian study explores whether the schools that reward teachers on the basis of their performance have higher pupil academic performance indicators and the presence of teachers' with the required qualifications (P4). Finally, in order to develop a motivating performance-related pay system that would also lead to better school performance, the selection of performance-related pay criteria is crucial (P5).

## 2. EMPIRICAL STUDY FOR DEVELOPING TEACHER PERFORMANCE APPRAISAL AND REMUNERATION ASPECTS OF PERFORMANCE MANAGEMENT

### 2.1. The research outline and methodology for exploring teacher performance appraisal and remuneration aspects of performance management in Estonian general educational schools

#### 2.1.1. Research process and sample

The research work implemented for this dissertation between 2007 and 2010 is presented in Figure 18.



**Figure 18.** The research process for the dissertation

Note: Blocked arrow-shaped textboxes represent the main activities executed during the research process; The results of the research activities are presented in the boxes connected by arrows; Supportive activities for motivating pedagogues to participate are marked in a box with a discontinuous border

Source: compiled by the author

Firstly, the author collected background information on best practices from abroad in executing appraisal and remuneration aspects of performance management – performance appraisal and performance-related pay – and on the current situation in Estonia. In order to obtain complete and exhaustive background information necessary for the research, information about these practices were located by analysing different documents, working papers, theoretical

reviews, articles, textbooks and web sites (Macaulay and Cook, 1994; Dransfield, 2000; Department of Education, 2000; Smith and Goddard, 2002; Holbeche, 2005; Alberta Education, 2005; Professional Standards for Teachers..., 2007, Õppeasutuse sisehindamine..., 2008; OECD, 2008; Nikkanen and Lyytinen, 2005 etc.). In addition to the aforementioned, the results of several working groups with the participation of researchers from the University of Tartu and officers from the Estonian Ministry of Education and Research and case studies carried out by Kulno Türk in 2000–2008 among Estonian school headmasters (during the headmasters' continuing education courses and Master's studies) also became important input for developing the foundation of the research. Based on the aforementioned work, a conceptual model for preparing the research – “The model of key characteristics of school performance” (see Figure 6, p. 49) – was compiled by the author. The model was presented at several conferences and to the Ministry of Education and Research to obtain additional feedback, which was all used in order to improve the model.

The logic of this model was also taken as the basis for compiling a questionnaire implemented in Estonian general educational schools. The development of the questionnaire took at least half a year. As the current study was a part of broader project “Performance and the analysis of influencing drivers in public schools”, then the study involved three separate yet related research topics, which were considered by different research groups: 1) financial management research group; 2) quality management research group; and 3) performance management research group. The current study represents the third topic – performance management. The process of developing the questionnaire itself consisted primarily of four parts. Firstly, at the initial stage all research groups presented their research claims. During this, more than two hundred claims were proposed based on the models and research interests of each research group. In order to guarantee the completeness of the set of claims in the project, all claims were put in the EFQM model of efficiency in the education sector (EFQM, 2002, Õppeasutuste sisehindamine..., 2008). The author of this dissertation and her research group proposed questions concerning teacher performance appraisal and performance-related pay. In the second stage, all claims were discussed with the aim of determining their reasonability in the Estonian study. In this stage, all research groups were responsible for looking through, rephrasing and improving all the claims put in the questionnaire. In addition, the author together with a research group member from the financial management group proposed claims about school performance indicators. The work in the second stage of questionnaire composition was implemented via several meetings, round tables and discussions with the research group at the University of Tartu and officials from the Ministry of Education and Research. Finally, the number of claims was cut to 166.

It is essential to note that the questionnaire was developed involving expert judgements throughout the process. Therefore, in the third phase the questionnaire was tested on several headmasters, teachers and officials from the Estonian Ministry of Education and Research. During the testing phase teachers,

headmasters and officials were asked to firstly complete the questionnaire and then offer comments about the questionnaire, and this was followed by a discussion. During the discussion, feedback about the shortcomings, incorrect definitions and other faults in the questionnaire were pointed out and solutions for improving the questionnaire were decided in a joint meeting of the research group.

In the fourth and final stage of compiling the questionnaire, an additional pilot study was implemented in three randomly selected Estonian counties. Altogether 10 Estonian general educational schools from three different counties – Lääne (3), Viljandi (4) and Tartu County (3) – including 51 teachers and 10 headmasters in total took part in the pilot study. The pilot study provided useful information for improving the methodology and the questionnaire. The correction stage involved both redefining some claims and improving the structure and the preview function of the questionnaires. After making corrections based on the pilot study results, the final questionnaire was formulated.

As it was essential to ascertain the opinions of both teachers and headmasters about performance management during this research, there were two separate final questionnaires – one for school headmasters (see Appendix 3) and the other for teachers. The questionnaire for teachers was developed on the basis of the questionnaire for headmasters. The questionnaires were presented in Estonian and in Russian, as schools with Estonian and Russian as the language of instruction both exist in the Estonian education sector. The final questionnaire for headmasters and teachers consisted of both school management questions and questions related to teachers' activities. However, it is important to note that the author did not use all claims pointed out in the questionnaire, but made a selection based on the model of the key characteristics of school performance (see Figure 6, p. 49)<sup>21</sup>. Similarly, as it is important to compare the opinions of teachers and headmasters in this study, then the selection of the claims was made on the basis that claims would be presented in the questionnaires for both teachers and headmasters (the questionnaire for teachers included less claims than the questionnaire for headmasters). The selected school management block consisted of questions related to the implementation of strategic management, resource management and questions related to organisational culture<sup>22</sup>. In addition, the block of school management questions incorporated claims concerning performance appraisal and performance-related pay. The claims concerning performance appraisal aimed to find out what teacher performance appraisal systems are like in the participant schools. Likewise, there were questions to find out which appraisal criteria are used to appraise teachers' work

---

<sup>21</sup> The selection of claims is marked using a grey background in the original questionnaire (see Appendix 3).

<sup>22</sup> In the original questionnaire (see Appendix 3) claims No. 12-21 are listed as strategic management claims, but as their content is rather related to organisational culture issues (behaviour, norms, communication), the author treats them as claims concerning organisational culture.

performance, and on the other hand, which of these criteria are believed to be rational in appraising the performance of teachers by pedagogues in general. The list of teacher performance appraisal criteria was proposed based on possible criteria presented in Table 4, p. 51. Questions about performance-related pay aim to ascertain pedagogues' opinions regarding performance-related pay as a management tool. The performance-related pay criteria were once again evaluated in terms of how reasonable they were in paying teachers on the basis of their performance. The list of performance-related pay criteria was provided in the questionnaire and was developed based on the performance appraisal criteria presented before.

As in the model of the key characteristics of school performance (see Figure 6, p. 49) and the model of teacher effectiveness (Department of Education, 2000), the block in the questionnaire dealing with teachers' activities consisted of those claims related to creating the learning process and learning environment<sup>23</sup>. In addition to the aforementioned, the questionnaire also included a block which aimed to ascertain the performance indicators valued in Estonian general educational schools. This question was open-ended, facilitating an understanding of how school performance is defined in Estonian general educational schools. This question is topical in the context of performance appraisal and performance-related pay, as these tools should be linked to school determined performance indicators in order to motivate teachers to achieve them. Finally, some general data was analysed as well; for example, school characteristics are primarily taken from the database of the Estonian Educational Information System ([www.ehis.ee](http://www.ehis.ee)). Respondents were only asked to fill in the name of their school on the questionnaire; the remaining information was taken from the Estonian Educational Information System. The author analysed the schools by school type (primary and secondary) and school location.

The final questionnaire consisted of closed and open-ended questions. Answers to the closed questions were given on a 5-point scale: "1" – do not agree at all; "2" – tend not to agree; "3" – hard to evaluate, do not really know; "4" – tend to agree; "5" – completely agree. There was also the possibility to answer "0" which stood for having no information or no ability to answer. This was necessary to avoid respondents giving fictional answers in cases where they had no or insufficient information about the situation in their school. While running statistical tests "0" answers were excluded (4.9% of the initial answers).

The complete sample of this study consisted of all teachers in Estonian general educational schools that teach children in the 9th grade (children aged 15–16) and 10th grade (children aged 16–17) and the headmasters of those

---

<sup>23</sup> In the original questionnaire (see Appendix 3), claims No. 81-86 and 97 are listed as claims about the learning process and school achievement measures, but because in the performance management literature in the educational field (Department of Education, 2000), the learning environment is viewed separately from the learning process and claims No 81-86 and 97 accord with teachers' activities in creating the learning environment, then the author treats these claims concerning the learning environment.

schools. Based on data from the Estonian Educational Information System ([www.ehis.ee](http://www.ehis.ee)) for the 2008/09<sup>24</sup> school year, there were 10,776 teachers teaching in the 7th–9th grades and the 10th–12th grades, but only 5,772 of them were teaching in the 9th or 10th grade. The complete sample of teachers in this study is 5,772 and the complete sample of headmasters is 487 as there are 487 general educational schools that teach children in the 9th and 10th grades.

The author was interested in the opinions of teachers teaching the 9th and 10th grades and those of their headmasters for the following reasons:

- 1) A teacher's performance in Estonia is often evaluated on the basis of the results in national examinations (Irs and Ploom, 2009). National examinations are held at the end of the primary and secondary school level (9th and 12th grade). Therefore more attention is placed on pupil performance and so the topic of school performance is more relevant in the 9th and 12th grades.
- 2) Since pupils studying in the 12th grade and the teachers teaching them are rather busy with the learning process and the research process took longer than one school year, the teachers teaching 12th grade were impossible to question. But as the preparations for graduating from secondary school and passing the national examinations usually begins in the 10th grade, then the teachers teaching in the 10th grade were questioned instead.
- 3) The issue of pupil performance is topical in the 9th grade as the preparation for getting into secondary school mostly takes place in the 9th grade (pupil results in the 9th grade are essential for entering secondary school).

In the preparatory stage of the main study, all general educational school headmasters that belonged to the complete sample (487 in total) received letters from the research group at the University of Tartu with the help of the Estonian Ministry of Education and Research. The letters introduced the study and invited headmasters and teachers to participate. In addition, an introductory article was published in the teachers' professional newspaper "Õpetajate Leht" (Kukemelk *et al.*, 2009).

The main study was executed between November 2009 and January 2010. The questionnaire was conducted both electronically and in written form. Most of the questionnaires were received electronically (98.3%) using an electronic solution called eFormular. This is a unique tool for creating electronic forms (eFormulars) and conducting surveys via the internet (the questionnaires that have been filled in can be returned online, thus making the whole process faster). Schools that needed to answer in writing were sent questionnaires via the regular postal service in envelopes which could be returned without any additional fees<sup>25</sup>.

---

<sup>24</sup> This school year was selected because the questionnaire was implemented during the 2009/10 school year and data about the 2008/09 school year was the last data available.

<sup>25</sup> Only 2 headmasters (0.7%) and 40 teachers (1.8%) returned their questionnaire via regular post.

By the end of December 2009, 31.7% of teachers teaching in the 9th and 10th grades and 51.3% of school headmasters had participated in this survey. The research group was not satisfied with this response rate, and therefore, started contacting schools who had not yet participated in the research. The aim of the research group was to gather as wide a variety of data and involve as many schools as possible. Therefore, the author and other research group members contacted all headmasters of schools where the response rate among teachers was below 50% and schools that had not responded at all. This took two weeks and during this process the schools were sent additional questionnaires via regular mail and e-mail. As a result the response rate for teachers grew by 18.2% and for headmasters by 19.2 %.

Table 11 describes the size and structure of the final sample. Therefore, the final sample of teachers in this study is 2,165 (37.5% of all teachers teaching in the 9th and 10th grades) and 298 headmasters (61.2% of all the headmasters of schools teaching pupils in the 9th and 10th grades).

**Table 11.** Size and composition of the sample of the main research conducted in Estonian general educational schools

	<b>Headmasters</b>	<b>Teachers</b>	<b>Total</b>
<b>School type</b>			
Primary school	165 (55.4%)	800 (37%)	965 (39.2%)
Secondary school	121 (40.6%)	1,256 (58%)	1,377 (55.9%)
Missing	12 (4%)	109 (5%)	121 (4.9%)
<b>School location</b>			
Bigger cities	66 (22.1%)	607 (28%)	673 (27.3%)
Smaller cities	36 (12.1%)	445 (20.6%)	481 (19.5%)
Municipalities	184 (61.7%)	1,005 (46.4%)	1,184 (48.3%)
Missing	12 (4%)	108 (5%)	120 (4.9%)
<b>School size</b>			
Less than 100 pupils	121 (40.6%)	530 (24.5%)	651 (26.4%)
100-200 pupils	43 (14.14%)	241 (11.1%)	284 (11.5%)
More than 200 pupils	122 (40.9%)	1,286 (59.4%)	1,408 (57.2%)
Missing	12 (4%)	108 (5%)	120 (4.9%)
<b>School's curricular language</b>			
Estonian	256 (85.9%)	1,637 (75.6%)	1,893 (76.9%)
Estonian/Russian	15 (5%)	134 (6.2%)	149 (6%)
Russian	15 (5%)	284 (13.1%)	299 (12.1%)
Missing	12 (4%)	110 (5.1%)	122 (5%)
<b>Gender</b>			
Male	114 (38.3%)	278 (12.8%)	398 (15.9%)
Female	184 (61.7%)	1,882 (86.9%)	2,066 (83.9%)
Missing	-	5 (0.2%)	5 (0.2%)

		<b>Headmasters</b>	<b>Teachers</b>	<b>Total</b>
<b>Age</b>	Mode N	43-52 years 298	43-52 years 2,157	43-52 years 2,455
<b>Pedagogical experience</b>	Mode N	21 and more years 298	21 and more years 2,155	21 and more years 2,453
<b>Working experience in their school</b>	Mode N	Less than 5 years 298	21 and more years 2,158	21 and more years 2,456
<b>Weekly workload</b>	Mode N	N/A	18 and more hours 2,155	-
<b>Occupational level</b>	Mode N	N/A	Teacher 2,097	-
<b>Qualification</b>	Mode N	N/A	Specialised- pedagogical 2,080	-

Note: Percentages in the table indicate the percentage of respondents of the particular subsample; N/A – not asked in questionnaire; Missing – answers with the value of “0” and no answer; N – sample size

Source: compiled by the author

Based on the data from Statistics Estonia<sup>26</sup>, 83.8% of people employed in the Estonian education sector are female and 16.2% male. Similarly, the data from the database of the Estonian Educational Information System indicated that in the 2008/09 school year, 82.4% of the teachers in secondary schools and 83.4% of teachers in primary schools were female. Therefore, the final sample of the current study is in accordance with labour market statistics, as 83.9% of the pedagogues in this research were female and 15.9% male. The age structure of the final sample is also similar to the labour market in the education sector<sup>27</sup>, as the teacher profession is primarily occupied by older employees. For example,

<sup>26</sup> The following data is used from the database of Statistics Estonia: Employment with the respect to economic sector and gender (database No. TT0201).

<sup>27</sup> The following data is used from the database of Statistics Estonia: Employment with the respect to economic sector and age (database No. TT0202).



based on the data from Statistics Estonia, 41% of the teachers working in the education sector are aged 50–74 years. Evidence of the similarities between the final sample of the study and the actual situation in the schools studied can be found from data from the Estonian Educational Information System about the 2008/09 study year. This indicates that 39.7% of teachers employed in schools teaching 9th and 10th grade pupils are aged 50 and over, 33% are 40–49 years old, 21.9% are aged 30–39 and 16.2% are younger than 30. Despite the fact that the age interval in this dissertation does not match that presented in the Estonian Educational Information System, recalculations show that the age structure of the final sample is quite similar to the complete sample (see a more detailed view of the sample with respect to age, pedagogical experience, work experience, qualifications, workload and occupational level in Appendix 6).

As much as 59.7% of the headmasters and 47.7% of the teachers participating in this study had pedagogical experience of 21 or more years. In addition to pedagogical experience and work experience, teachers were also viewed with respect to weekly workload, occupational level and qualification, and 76.5% of the teachers who participated in this study had a weekly workload of 18 or more hours, 69.2% of them had specialist pedagogical education. With respect to occupational level more than half of the respondents (69.1%) were teachers. Thus the current sample makes it possible to generalise about Estonian general educational schools teaching children in the 9th and 10th grade. After gathering the data from the respondents, the analysis of the data was executed by the author of this dissertation.

However, in addition to the quantitative study, case studies were also conducted in order to gather additional information to deal with the questions raised during the quantitative study. Based on the results and issues raised during the primary analysis, the author developed case study questions (see Appendix 7). The case study questions involved 6 questions about performance appraisal and 4 questions about performance-related pay implemented in Estonian general educational schools. The performance appraisal questions aim to discover the relationship between performance appraisal and school management, the pros and cons of performance appraisal, the need for change, the implementation of development interviews and feedback, teacher involvement in the process of creating performance appraisal, introducing appraisal results and the involvement of pupil feedback. Performance-related pay questions aim to discover the teacher reward strategy in schools, whether and to what extent performance-related pay is implemented, what performance-related pay criteria are used, what are the reasons for not implementing performance-related pay, how was performance-related pay developed and based on what, whether teachers were involved, the pros and cons of the performance-related pay implemented in schools, the improvement potential and what role weekly workload and class size plays in teachers' salaries. The case studies were conducted between February and June 2011 in three general educational schools. The schools were selected primarily based on their own interest in obtaining additional feedback about performance management issues in their schools. Contacts with the

schools participating in the study were developed while introducing the study results. As schools were interested in getting a more detailed overview of the results of the main study, they also agreed to share their opinions during the case studies. Altogether, twelve interviews were executed with headmasters and three teachers from each Estonian general educational school in this study. The case studies were compiled by the members of the research group (see Türk, *et al.*, 2011, pp. 241–244). The answers were taped and transcribed. The author has summarised the results of the case studies in Appendix 8.

The final stage of the research process was analysing and synthesising the data, which resulted in compiling proposals. Based on the results of the study, practical proposals for school headmasters and education leaders were compiled.

### **2.1.2. Methodological considerations and methods used in the research**

As the empirical part of this dissertation concentrates primarily on two aspects of performance management – teacher performance appraisal and performance-related pay – then the discussion about the methodological considerations and methods used are also discussed in relation to these two concepts. However, it is important to note that the author implements a primarily non-parametric statistical test because the variables of this data failed to satisfy the basic assumptions of a parametric test<sup>28</sup>. However, there is one exception – in a case of school performance indicators, the assumptions were satisfied and therefore, parametric statistical tests were executed. The data was analysed using SPSS (*Statistical Package for Social Sciences*). P-values of 0.05 and 0.01 are used to evaluate the null hypotheses in this dissertation.

Firstly, the evidence about the potential for developing teacher performance appraisal is topical. Two important tasks are set for the empirical analysis of performance appraisal (see also Table 12). Firstly, proposals about the managerial aspects that need to be taken into consideration while developing teacher performance appraisal in schools should be provided. In order to obtain useful evidence about making these proposals, several aims for proposition testing are posed.

---

<sup>28</sup> Based on the results of QQ plot, and histogram, it is possible to conclude that the data of this dissertation are mainly not distributed normally. The homogeneity of variances was tested using Levene's test and indicated that the assumption of homogeneity of variance was violated as well.

**Table 12.** Methodology for testing propositions related to the development of teacher performance appraisal

The aim of testing the propositions	Data type	Methods	Data	Use of results
Topic: The managerial aspects of developing teacher PA				
<b>Propositions 1a, 1b.</b> 1. To ascertain which SM characteristics are related to pedagogues' opinions about PA. 2. To find additional evidence of whether those SM characteristics create differences in pedagogues' opinions between groups. 3. To find whether teacher involvement in PA design is related to their positive opinions about PA in their schools and ascertain the differences between opinions of teachers who had been involved and who were not.	Quantitative data about pedagogues' opinions (5-point scale) about strategic-, resource management, OC and pedagogues' opinions about PA implemented in their school	Correlation analysis (Spearman), *factor and regression analysis	Pedagogues' opinions, sample size 2,463	Proposals about managerial aspects that need to be considered during PA development in schools.
	Quantitative data about teachers' answers about their involvement in PA and opinions of PA (5-point scale)	Sample comparison method: Mann-Whitney U-test and descriptive statistics	Teachers' opinions, sample size 2,165	
	Transcriptions of case studies	A priori and grounded coding	3 schools 12 interviews	
Topic: selecting the criteria for teacher PA				
<b>Propositions 2a, 2b, 2c</b> 1. To ascertain which characteristics of teachers' activities are related to pedagogues' opinions about PA. 2. To find additional evidence whether those characteristics of teachers' activities create differences in pedagogues' opinions between groups. 3. Determine the main school performance indicators in Estonian schools. 4. Determine the gap between teachers' and headmasters' preferences in PA criteria.	Quantitative data about pedagogues' opinions about LP and LE and PA (5-point scale) implemented in their schools	Correlation analysis (Spearman),* factor and regression analysis	Pedagogues' opinions, sample size 2,463	Proposals for selecting PA criteria
	Quantitative data about pedagogues' opinions (5-point scale) about PA criteria	Sample comparison method: Mann-Whitney U-test and descriptive statistics	No. of open-ended answers 3,450	
	Qualitative answers about school performance indicators.	A priori and grounded coding	3 schools, 12 interviews	
Transcriptions of case studies				

Note: P- proposition (see Table 10, p. 95); PA – performance appraisal; SM – school management, LP – learning process; LE – learning environment; OC-organisational culture; \* additional factor- and regression analysis was run during the project “Performance and analysis of its influencing drivers in public schools” (Türk et al., 2011) Source: compiled by the author

It is crucial to ascertain which performance management related school management characteristics are related to pedagogues' opinions about performance appraisal. As the design of performance appraisal (see also Figure 8, p. 67) is affected by strategic management (setting school objectives, important tasks), resource management (allocating tangible and intangible resources) and organisational culture (developing the necessary atmosphere for performance appraisal), the answer to the question of how those school management characteristics are related to pedagogues' opinions about performance appraisal make it possible to determine activities at the school management level that help develop a fair and accepted performance appraisal with less resistance. In order to ascertain those relationships the author has used quantitative data about pedagogues' opinions (opinions are given in 5-point scale) about the implementation of strategic management<sup>29</sup>, resource management<sup>30</sup> and organisational culture<sup>31</sup> and opinions about the teacher performance appraisal implemented in their school<sup>32</sup> (N=2,463).

The possible relationships are determined using a *correlation analysis*. During this dissertation *Spearman correlations* are primarily calculated. The Spearman correlation is a non-parametric measure of statistical dependence between two variables. It assesses the strength of the relationship between two variables (Artusi *et al.*, 2002). The size of the correlation coefficient is affected by the sample size. In this study, the sample size is quite large. It is much easier to obtain a high coefficient with small samples than with large samples. However, it is important to note that in the social sciences, correlations of 0.3 might be regarded as relatively strong and correlations of 0.5 might be regarded as very strong in some social science situations, e.g. where the measures are based on 5-point Likert scales (De Vaus, 2002), as was the case in this study.

However, in order to find additional evidence about the importance of school management characteristics, it is crucial to test whether the potential school management characteristics cause significant differences in opinions between groups that follow these aspects of school management and groups that do not. The additional comparison of groups is implemented only when those school management characteristics were significantly related to pedagogues' opinions about the performance appraisal implemented in their school<sup>33</sup>. For example, evidence can be gathered by comparing schools in terms of whether they analyse their previous activities when compiling a school development plan. Comparisons can be made between schools that respond to this questions with "totally" and

---

<sup>29</sup> Involves claims No. 1-2, 6-11 from the questionnaire (see Appendix 3).

<sup>30</sup> Involves claims No. 26, 27.3, 28, 32, 34, 39 from the questionnaire (see Appendix 3).

<sup>31</sup> Involves claims No. 12.1, 14-16, 19-21 from the questionnaire (see Appendix 3).

<sup>32</sup> Claims No. 45-46 from the questionnaire (see Appendix 3).

<sup>33</sup> Claims No. 6, 8, 9, 10, 11, 12.1, 14, 16, 21, 26, 34, 39 from the questionnaire (see Appendix 3).

“rather” (opinions estimated at 4 and 5 on a 5-point scale) with those schools that “do not” or “rather do not” (opinions estimated at 1 and 2 on a 5-point scale). The answers “hard to evaluate, do not really know” are not presented in the analysis because it does not reflect a confident opinion. In order to compare those groups the *Mann-Whitney U-test*<sup>34</sup> is run. The descriptive statistics are calculated to evaluate the size of the difference between the groups tested.

Special attention in performance appraisal literature is focused on teacher involvement in the development of the performance appraisal system (Grote, 1996; Aladwani, 2001; Armenakis and Harris, 2002; Roberst, 2003; Brown and Benson, 2003; Chang and Hahn, 2006; Kelly *et al.*, 2008). Therefore, the current dissertation also seeks evidence for whether teacher involvement in performance appraisal design is related to having positive opinions about the teacher performance appraisal implemented in their schools. The author has data about teacher involvement<sup>35</sup> (teachers’ opinions in 5-point scale) and teachers’ opinions (opinions in 5-point scale) about the performance appraisal implemented in their school<sup>36</sup> (N=2,165). In order to test the relationship between teacher involvement and their opinions about the performance appraisal implemented in their schools, a correlation analysis is run. Additional evidence about the influence of involvement is determined by comparing the opinions of the group of teachers who had been involved (opinions rather agree and totally agree) in performance appraisal development with those of the group of teachers who had not been involved (opinions rather not agree and disagree). The Mann-Whitney U-test sample comparison method is performed and descriptive statistics are analysed to identify the extent of the differences.

Additional evidence about the teacher involvement issue and other school management aspects can be found from the transcriptions of the case studies implemented in three Estonian general educational schools. The answers were coded primarily by a priori coding, but grounded coding was included as well. *A priori coding* is implemented based on the pre-existing framework of topics (Taylor and Gibbs, 2010). For example, in this study, the codes were identified primarily from the research propositions, questionnaire, topics and questions discussed in the theoretical part. *Grounded coding* was included as it allows new codes to emerge from the data set as you read it (Taylor and Gibbs, 2010).

The second task in the empirical analysis of performance appraisal is to propose performance appraisal criteria for evaluating teacher performance in schools. As selecting performance appraisal criteria is the most difficult part of performance appraisal system design, then a range data was gathered in order to obtain diverse information for making proposals about selecting performance appraisal criteria.

---

<sup>34</sup> The Mann-Whitney U-test is a non-parametric analogue to the *Independent Samples t-test* and can be used when you do not assume that the dependent variable is a normally distributed interval variable (Winks Statistics Tutorials..., 2011). It is comparing two independent groups based on ranking and compares the medians of two groups.

<sup>35</sup> Claim No. 44 in the questionnaire (see Appendix 3).

<sup>36</sup> Claims No. 42–43, 45–46, 48 in the questionnaire (see Appendix 3).

There are several aims in the testing of the propositions. Firstly, it is important to ascertain which characteristics of teachers' activities are related to pedagogues' opinions about performance appraisal. As the core of a teacher's work concerns their effort in the classroom where their role is to develop the learning process and the learning environment (Department of Education, 2000), teacher performance appraisal criteria which evaluate individual performance are most probably related to the learning process and environment characteristics (see also Figure 8, p. 67). In order to test those relationships, the author uses quantitative data about pedagogues' opinions (opinions are given on a 5-point scale) about the learning process<sup>37</sup>, the learning environment<sup>38</sup> and pedagogues' opinions about the performance appraisal implemented in their school<sup>39</sup> (N=2,463). The relationships are tested with the help of a correlation analysis (Spearman correlation). However, additional evidence on whether the characteristics of the learning process and learning environment that showed significant relationships during the correlation analysis<sup>40</sup> cause statistically significant differences in pedagogues' opinions between groups that follow them and groups that do not. The statistically significant differences between groups are tested using the Mann-Whitney U-test also including the calculation of descriptive statistics.

In addition, the pedagogues participating in this study were asked to evaluate the reasonableness of the teacher performance appraisal criteria proposed by the author. Those performance appraisal criteria were developed based on the model of the key characteristics of school performance (see also Figure 6, p. 49 and Table 4, p. 51). The aim of this block of questions was to gather a comparative view of headmaster' and teachers' preferences in selecting performance appraisal criteria. The comparative view of these opinions provides valuable information about what criteria should be selected in order to find synergy between the views of headmasters and teachers, which is crucial in achieving balanced school development. Therefore, the opinions of both teachers and headmasters about the reasonableness of the proposed criteria<sup>41</sup> given in the 5-point scale make it possible to test the differences between the opinions of teachers and headmasters using the Mann-Whitney U-test. In order to value the extent of the differences, descriptive statistics were calculated as well. The size of the total sample is 2,463.

The qualitative data gathered during the Estonian study is useful for formulating the proposals about the selection of performance appraisal criteria. Qualitative data about the performance appraisal criteria give a more objective overview of the common practices in assessing teacher work performance in Estonian general educational schools because the criteria were not provided by the author,

---

<sup>37</sup> Involves claims No. 87, 89–91, 93–94, 98–99 from the questionnaire (see Appendix 3).

<sup>38</sup> Involves claims No. 81–86, 97 from the questionnaire (see Appendix 3).

<sup>39</sup> Involves claims No. 45–46 from the questionnaire (see Appendix 3).

<sup>40</sup> Statistically significant and relatively strong relations were found in case of claims No. 82–83, 85–87, 89–91, 93–94, 97 from the questionnaire (see Appendix 3).

<sup>41</sup> Involves claims No. 50–69 from the questionnaire (see Appendix 3).

but pointed out by the pedagogues themselves. Firstly, the author gathered data about how pedagogues define school performance in Estonian general educational schools. This knowledge is essential as it help develop proposals for selecting performance appraisal criteria that support the achievement of school performance indicators. A total of 3,450 answers were provided by the pedagogues. The answers were analysed with the help of coding. The answers were coded primarily using a priori coding, but grounded coding was included as well. In this study, a priori codes were identified primarily from the research propositions, questionnaire, topics and questions discussed in the theory (e.g. possible teacher performance appraisal criteria, key performance indicators set at the governmental level etc<sup>42</sup>). Grounded coding was included as well because the questionnaire did not allow the inclusion of all criteria. After coding the answers, their recurrence was registered in the table which also made it possible to rank the most frequently mentioned performance indicators valued in Estonian general educational schools. This ranking was compared to the most frequently used performance appraisal criteria in order to get an overview of how performance appraisal criteria support the achievement of school performance indicators.

In addition to the answers to the open-ended questions, important information can be gathered from the transcriptions made based on the case studies in 3 general educational schools where 12 pedagogues were questioned in total (3 headmasters and 9 teachers). The transcriptions were coded based primarily on a priori coding. Thus, the variety of data gathered makes it possible to employ both quantitative and qualitative statistical methods that provide ample information for developing the recommended performance appraisal criteria for measuring teachers' work performance.

Table 12 also presents information about the regression analysis and factor analysis, which were executed by the author during the analysis performed for the report for the project "Performance and analysis of influencing drivers in public schools" (Türk et al., 2011). Those statistical methods were employed in order to obtain additional evidence about the relationships between both school management and pedagogues' opinions to performance appraisal and between teachers' activities and pedagogues' opinions of performance appraisal. To group school performance and characteristics of teachers' activities in order to conduct a regression analysis, a *factor analysis* was used. The author used an *exploratory factor analysis*<sup>43</sup>, which resulted in five factors<sup>44</sup>:

- 1) learning process (analysing the development of pupils' general skills, academic performance, development of pupils' capabilities, teaching based on

---

<sup>42</sup> See subchapters 1.1.2 and 1.1.3.

<sup>43</sup> Exploratory factor analysis is used to uncover the underlying structure of a relatively large set of variables.

<sup>44</sup> Parameters of the factor analysis: sample size 2,463; No. of items 64; Determinant of the R-matrix 0.001; Bartlett test of sphericity p=0.00; Kaiser-Meyer-Olkin measure of sampling adequacy 0.89; Cronbach Alpha for extracted factors – factor 1: 0.83, factor 2: 0.81; factor 3: 0.79, factor 4: 0.8, factor 5: 0.7.

- pupils' capability and talent, choice of extra-subjects based on pupils' interests; use of modern teaching and learning methods, involving pupils in planning school life);
- 2) organisational culture (good communication with school manager, school manager follows ethical norms, involving teachers' opinions and proposals in school development and management, valuing teachers' achievements);
  - 3) resource management (analysing additional operational cost that concur with the investment while planning investments, analysing additional revenues that concur with the investment while planning investments, developing a material-technical basis according to school development plan);
  - 4) strategic management (introducing the implementation of the school development plan to different interest groups, making summaries of the implementation of the school development plan, employees aware of their role in implementing the school development plan);
  - 5) learning environment (pupils following school rules and discipline, pupils understand what teachers expect from them).

The causal connections between the resulting factors and other variables were analysed using the *OLS regression analysis (Stepwise method)*<sup>45</sup>. The independent variables were school management and teachers' activities. The dependent variable was pedagogues' opinions of whether performance appraisal has an influence on the teachers' work performance (claim No. 45, see Appendix 3). A model descriptive R-square of value 0.05 is counted as very good in the social sciences (Healey and Prus, 2010). The author used the results of the regression analysis performed for the project report as additional evidence for this dissertation.

Secondly, the evidence of the possibilities for developing teacher performance-related pay is relevant. Two important tasks are set for the empirical analysis about performance-related pay (see Table 13) – providing proposals about managerial aspects that need to be considered while developing performance-related pay in schools, and proposing recommendations for selecting performance-related pay criteria. At first, in order to develop proposals about which managerial aspects need to be considered when designing a performance-related pay scheme, the author aims to ascertain whether the implementation of performance appraisal is related to pedagogues' opinions about performance-related pay.

Understanding the relationships between performance appraisal and performance-related pay is important as it makes it possible to understand the extent to which shortcomings in the performance appraisal system influence pedagogues' opinions of performance-related pay in their school, and therefore, the success of this system. However, as the results are based on pedagogues'

---

<sup>45</sup> Because the variables failed to satisfy the assumption of normality, homogeneity of variance, and linearity, the dependent variable is transformed to correct the deficiency (Computing Transformations..., 2011). The author used the *square root transformation* for transforming the dependent value.



opinions, then those results also provide information about whether pedagogues understand the link between performance appraisal and performance-related pay.

**Table 13.** Methodology for testing propositions related to developing teacher performance-related pay

The aim of testing the propositions	Data type	Methods	Data	Use of results
Topic: The managerial aspects of developing teacher PRP				
<b>Propositions 3a, 3b, 4a, 4b.</b> 1. To find whether the implementation of PA is related to pedagogues' opinions about PRP. 2. To ascertain which SM characteristics are related to pedagogues' opinions about PRP. 3. To find additional evidence whether those SM characteristics create differences in pedagogues' opinions between groups. 4. To ascertain whether schools implementing PRP have higher performance indicators.	Data about pedagogues' opinions (5-point scale) about strategic-, resource management, OC and opinions of the PRP implemented in their school Data about pedagogues' opinions about PA and PRP Open-ended answers about school performance indicators (extract from EHIS) and the implementation of PRP (yes/no) Transcriptions of case studies	Correlation analysis (Spearman), *factor and regression analysis  Mann-Whitney U-test, Independent Samples T-test and descriptive statistics  A priori and grounded coding	Pedagogues' opinions, sample size 2,463  Performance indicators of 298 schools	Proposals about managerial aspects that need to be considered during PRP development in schools
Topic: selecting the criteria for teacher PRP				
<b>Propositions 5a, 5b</b> 1. To ascertain which characteristics of teachers' activities are related to pedagogues' opinions about PRP. 2. To find additional evidence of whether those characteristics of teachers' activities create differences in pedagogues' opinions between groups. 3. To determine the teachers' preferred PRP criteria.	Data about pedagogues' opinions (5-point scale) about LP and LE and the PRP implemented in their schools Data about pedagogues' opinions (5-point scale) about PRP criteria Open-ended answers about PRP used in schools Transcriptions of case studies	Correlation analysis (Spearman),* factor and regression analysis Mann-Whitney U-test, Wilcoxon Signed Rank Sum test and descriptive statistics. A priori and grounded coding	Pedagogues' opinions, sample size 2,463  1,388 open-ended answers about PRP criteria  3 schools, 12 interviews	Proposals for selecting PRP criteria

Note: P- proposition (see Table 10, p. 95); PA – performance appraisal; PRP – performance-related pay; SM – school management, LP – learning process; LE – learning environment; OC-organisational culture; \*additional factor and regression analysis was run during the project “Performance and analysis of its influencing drivers in public schools” (Türk et al., 2011) Source: compiled by the author

Firstly, in order to determine whether the negative opinions about performance-related pay may emanate from discontentment with the teacher performance appraisal system implemented in Estonian general educational schools, the claims that have resulted in more negative opinions on both the performance appraisal system and performance-related pay<sup>46</sup> are compared using the *Wilcoxon Signed Rank Sum test*<sup>47</sup> (N=2,463). The measuring tool for finding potential relationships between the opinions of pedagogues about performance appraisal and the opinions of pedagogues about performance-related pay includes several claims. For example, it consists of claims about the implementation of performance appraisal in the studied Estonian general educational schools<sup>48</sup>. In addition, it involves general claims concerning performance-related pay as a management tool<sup>49</sup>. When selecting those general claims, those witnessed as the most problematic in implementing performance-related pay in Estonian general educational schools were selected (the most negative opinions were related to performance-related pay being fair and performance-related pay supporting the achievement of school objectives). Therefore, the claims concerning the fairness of performance-related pay and its support role in achieving school objectives were included). In this proposition, both headmasters' and teachers' opinions (given on a 5-point scale) were included, giving a total sample of 2,463 respondents. The relationship between pedagogues' opinions of performance appraisal and performance-related pay was tested using a correlation analysis (Spearman correlation), and in order to ascertain whether teachers are less cognisant of this relationship, the correlation analysis is run separately for headmasters and teachers.

As in performance appraisal design, the characteristics of school management are also relevant when designing performance-related pay (see Figure 13, p. 82), as it provides the necessary framework for determining the aim and principles of performance-related pay (strategic management), allocates tangible and intangible resources based on school strategic aims (resource management) and creates the performance-oriented atmosphere necessary for implementing performance-related pay (organisational culture). Therefore, identifying the critical activities in school management that are related to pedagogues' opinions about performance-related pay is also important in order to develop managerial proposals for headmasters. In order to identify empirical evidence about those relationships, the author gathered quantitative data about pedagogues' opinions (on a 5-point scale) of the strategic management<sup>50</sup>, resource management<sup>51</sup> and

---

<sup>46</sup> In case of performance appraisal claims No. 42, 46 are included, in case of performance-related pay claims No. 72 and 75 are included (see the questionnaire from Appendix 3).

<sup>47</sup> Wilcoxon signed rank sum test is a non-parametric version of a *Paired samples t-test* (What statistical analysis..., 2011). It can be used when you do not wish to assume that the difference between the two variables is interval and normally distributed.

<sup>48</sup> Involves claims No. 42-46, 48 from the questionnaire (see Appendix 3).

<sup>49</sup> Involves claims No. 71-72 from the questionnaire (see Appendix 3).

<sup>50</sup> Involves claims No. 1-2, 6-11 from the questionnaire (see Appendix 3).

organisational culture<sup>52</sup> implemented in their schools, and quantitative data about pedagogues' opinions about the performance-related pay implemented in their schools<sup>53</sup> (on a 5-point scale). The relationships are initially tested via a correlation analysis. However, in order to locate additional evidence of whether those school management characteristics that indicated a significant result in the correlation analysis create differences in pedagogues' opinions between groups, the Mann-Whitney U-test sample comparison method was also executed. By combining the results of the correlation analysis and the sample comparison, valuable information can be identified in order to highlight critical school management activities that constitute success for the performance-related pay implemented in schools.

Another important decision in performance-related pay design is selecting the suitable reward strategy (see Figure 13, p. 82). It is relevant in the context of this dissertation whether those schools rewarding teachers on the basis of their performance have higher performance indicators. In order to answer this question, the author uses pedagogues' responses about whether performance-related pay is implemented in their schools<sup>54</sup> (possible answers – yes or no) and school performance indicators taken from the Estonian Educational Information System (EHIS).<sup>55</sup> The author incorporated several school performance indicators that in the first place were related to pupil academic performance (final and national examination results, percentage of pupils continuing studies at the next school level – in secondary school and in university in a state-funded student place) and the schools' ability to attract teachers (presence of teachers with required qualification) (see Table 14).

**Table 14.** Data about school performance indicators used in the analysis

Primary schools	Secondary schools
Average results of final exams at the end of the 9th grade.	Average results of national examinations at the end of the 12th grade (the average results of all subjects where pupils performed national examinations).
Percentage of pupils continuing studies at the next school level (from the total number of primary school leavers).	Percentage of pupils continuing studies at university in a state-funded student place (from the total number of secondary school graduates).
Presence of teachers with the required qualifications.	Presence of teachers with the required qualifications.

Note: Those performance indicators are gathered about all the schools participating in this study (298 schools in total); the data is about the 2008/09 school year.

Source: compiled by the author based on the Estonian Educational Information System, [www.ehis.ee](http://www.ehis.ee)

<sup>51</sup> Involves claims No. 26, 27.3, 28, 32, 34, 39 from the questionnaire (see Appendix 3).

<sup>52</sup> Involves claims No. 12.1, 14-16, 19-21 from the questionnaire (see Appendix 3).

<sup>53</sup> Involves claims No. 72 and 75 from the questionnaire (see Appendix 3).

<sup>54</sup> Claim No. 74 from the questionnaire (see Appendix 3).

<sup>55</sup> EHIS – Eesti Hariduse Infosüsteem, [www.etis.ee](http://www.etis.ee).

The average examination results are calculated per school, taking into consideration all the subjects that pupils have selected for the national examination. The author did not limit the selection of subjects, for example, to Mathematics, English, Composition and History for computing the average level of the examination results. This is because there are schools in Estonia with many specialist subjects (e.g. Biology etc.) and selecting a limited number of subjects would leave schools that focus elsewhere in a weaker position in the analysis. The schools that implement performance-related pay are compared to those schools that do not using an *Independent Samples-test* with additional descriptive statistics to ascertain the extent of the differences. Similarly, a correlation analysis is run in order to determine whether the implementation of performance-related pay is positively related to school performance indicators.

Qualitative data about the implementation of performance-related pay in three Estonian general educational schools is also gathered. The transcriptions of case studies are coded with a priori codes (taken from the case study questionnaire, presented in Appendix 8 and the theoretical part of this dissertation<sup>56</sup>). Qualitative data from the case studies makes it possible to point out the reasons for not implementing performance-related pay.

Secondly, in order to provide proposals for selecting performance-related pay criteria for rewarding teacher performance in Estonian general educational schools, the author firstly aims to ascertain which characteristics of teachers' activities are related to pedagogues' opinions about performance-related pay. This task is essential as both the learning process and learning environment are related to teachers' individual work performance in the classroom in a performance-related pay scheme (Department of Education, 2000, Figure 13, p. 82). Data necessary for testing this proposition include quantitative data about pedagogues' opinions (on a 5-point scale) of the learning process<sup>57</sup> and learning environment<sup>58</sup> and pedagogues' opinions about the performance-related pay implemented in their schools<sup>59</sup> (opinions given on a 5-point scale) (N=2,463). To find additional evidence whether those characteristics of teachers' activities create differences in pedagogues' opinions between groups, the Mann-Whitney U-test and a comparison of descriptive statistics was implemented as well. In order to obtain a comparative view of headmasters' and teachers' preferences in selecting performance-related pay criteria, which is useful for developing an accepted and balanced reward system, the author also proposed a list of possible performance-related pay criteria which teachers were asked to evaluate in terms of how rational these were for rewarding teachers' work performance (N=2,463). The statistical differences between teachers' and headmasters' opinions were discovered via the Mann-Whitney U-test for comparing two independent groups, and for a more precise measurement of the differences,

---

<sup>56</sup> See subchapter 1.1.2 and 1.1.3.

<sup>57</sup> Involves claims No. 87, 89–91, 93–94, 98–99 from the questionnaire (see Appendix 3).

<sup>58</sup> Involves claims No. 81–86, 97 from the questionnaire (see Appendix 3).

<sup>59</sup> Claims No. 72, 75 from the questionnaire (see Appendix 3).

descriptive statistics were also calculated. With the aim of obtaining ample information for developing proposals for selecting performance-related pay criteria, the author gathered qualitative data as well. Firstly, the author worded an open-ended question for teachers and headmasters in Estonian general educational schools to bring out the criteria for rewarding their performance. There were altogether 1,388 valid answers to that question. It is worth mentioning that only schools that implement performance-related pay were asked to answer that question. The answers were coded primarily by a priori coding, but grounded coding was included as well. The codes were identified primarily from the questionnaire and theory (see Table 4 p. 51, Table 9 p. 90). Grounded coding was included because all the practices and performance-related pay criteria are impossible to ascertain, especially because the limited number of questions in the questionnaire made it impossible to include all criteria. After coding the answers, their recurrence was registered in the table which also made it possible to rank the most frequently mentioned performance indicators valued in Estonian general educational schools.

In addition to the answers to the open-ended questions, important information can be gathered about the preferred performance-related pay criteria from transcriptions made based on the case studies in 3 Estonian general educational schools where 12 pedagogues were questioned in total (3 headmasters and 9 teachers). The transcriptions were coded based primarily on a priori coding. Thus, the variety of data gathered makes it possible to employ both quantitative and qualitative statistical methods that provide abundant information for developing the proposals for performance-related pay criteria selection.

As in the performance appraisal study, the author uses the results of the factor and regression analysis implemented while compiling the report for the study project implemented in Estonian general educational schools. These results are used as additional evidence about the relationships between school management, teachers' activities and pedagogues' opinions to performance-related pay. In the context of performance-related pay, the independent variables were the factors school management and teachers' activities (see factors from pages 108-109). Dependent variables were firstly, pedagogues' opinions about performance-related pay being very motivating for teachers (claim No. 71, see Appendix 3) and secondly pedagogues' opinions about performance-related pay supporting schools in achieving their objectives (claim 72, see Appendix 3).

## **2.2. Results from research into teacher performance appraisal in Estonian general educational schools**

### **2.2.1. Implementation of teacher performance appraisal and the relationships between pedagogues' opinions in Estonian general educational schools**

The following subchapter provides an overview of how the implementation of teacher performance appraisal in Estonian general educational schools relates to headmasters' and teachers' opinions about this management tool. In general, the results of the study indicate that more than half of the pedagogues completely agree or tend to agree that the teacher performance appraisal in their schools is organised systematically, the principles are well understood, teachers are involved, feedback is sufficient and the teacher performance appraisal process ends with an appraisal-development interview (see Table 15). However, less than half of the pedagogues believe that the teacher performance appraisal system implemented in their school is fair and has an influence on teachers' work performance. This finding is problematic because even though the performance appraisal system itself may be organised well, if its benefits as a management tool are not recognised it will not serve its objective. An interesting finding stems from the claim that involves senior pupil feedback on teacher performance, which is actually emphasised in internal school evaluations<sup>60</sup>. But despite the importance placed on pupil feedback in internal school evaluation documents compiled by the Estonian Ministry of Education and Research, the results of Estonian general educational schools indicate that pupil feedback is not often involved in teacher performance appraisal. The case studies implemented in three Estonian general educational schools indicated that although all the schools took pupil feedback into consideration when evaluating teachers' work performance, teachers from two schools highlighted several aspects that need to be taken into consideration in involving pupil feedback (see Appendix 8). Firstly, senior pupil feedback is seen as more objective compared to junior pupil feedback. As teachers from school No. 1 point out "*Junior pupils may not be as objective, and their responses may depend on the difficulty of the subject taught*". In addition teachers point out that pupil feedback should be taken into consideration only if a representative number of pupils provide feedback. Teachers from school No. 2 emphasise that pupil feedback should be involved, but it should not be the most important criteria for valuing teachers' work performance, as the results of pupil satisfaction inquiries are still subjective. Therefore, based on the case study results it is possible to conclude that pupil feedback is involved modestly primarily because of the subjectivity issues.

---

<sup>60</sup> See further information about internal school evaluation from subchapter 1.1.2, p. 27.

**Table 15.** Overview of opinions on the implementation of teacher performance appraisal in Estonian general educational schools by respondent type

Claims about PA		Frequencies (%)			Mean (SD), N		
		HM	T	Total	HM	T	Total
42: Systematic PA	Pos	60.4	78.5	<b>63.2</b>	4.13 (0.78)	3.91 (1)	<b>3.94 (0.98)</b>
	Neg	2.7	8.3	<b>7.1</b>	290	2,048	<b>2,338</b>
43: Clear PA principles	Pos	74.8	63.8	<b>60.2</b>	4.03 (0.82)	3.82 (1.05)	<b>3.85 (1.02)</b>
	Neg	4.4	10.7	<b>9.2</b>	290	2,060	<b>2,350</b>
44: Teacher involvement	Pos	73.2	54.2	<b>52.3</b>	3.97 (0.78)	3.61 (1.05)	<b>3.65 (1.03)</b>
	Neg	3	13.9	<b>11.7</b>	288	2,010	<b>2,298</b>
45: PA's influence on performance	Pos	64	50.7	<b>48.3</b>	3.76 (0.84)	3.5 (1.05)	<b>3.53 (1.03)</b>
	Neg	6.7	14.9	<b>12.9</b>	290	2,037	<b>2,327</b>
46: Fairness of PA	Pos	65.5	49	<b>47.1</b>	3.83 (0.77)	3.57 (0.99)	<b>3.61 (0.97)</b>
	Neg	4	10.4	<b>8.9</b>	281	1,955	<b>2,236</b>
47: Development interview	Pos	70.5	58.4	<b>55.4</b>	3.96 (1.14)	3.7 (1.33)	<b>3.73 (1.31)</b>
	Neg	12.8	18.2	<b>16.2</b>	291	1,973	<b>2,264</b>
48: Sufficient feedback	Pos	68.5	62.6	<b>58.6</b>	3.76 (0.83)	3.75 (1.12)	<b>3.75 (1.09)</b>
	Neg	7.7	13.9	<b>12.2</b>	291	2,102	<b>2,393</b>
49: Involving pupil feedback	Pos	47.3	42.3	<b>39.6</b>	3.4 (1.24)	3.42 (1.22)	<b>3.42 (1.23)</b>
	Neg	22.9	17.8	<b>17</b>	276	1,762	<b>2,038</b>

Note: The number before the claim refers to its number in the questionnaire (see Appendix 3); PA – performance appraisal; HM- headmasters; T – teachers; “Pos” – answers rather or totally agree; “Neg” – answers rather or totally not agree; The answers “hard to evaluate, do not really know” are not presented in this table; Statistics about the total are in boldface; The 5-point scale used was as follows: 1 – do not agree at all; 2 – tend not to agree; 3 – hard to evaluate, do not really know; 4 – tend to agree; 5 – completely agree.

Source: author’s calculations

The results about the implementation of teacher performance appraisal reflect the headmasters having higher opinions of performance appraisal systems compared to the teachers. On the one hand, this is logical because as stated in the theoretical part, critics of performance appraisal say performance appraisal may be perceived as a means to increase managerial control (Winstanley and Stuart-Smith, 1996; Bach 2005) and as teacher performance appraisal involves teachers the most, then they have more critical views. But on the other hand, it may also reflect the poor implementation of teacher performance appraisal in schools. Similarly, as headmasters are responsible for developing the teacher performance appraisal system within the school, they may be more positive about the system they have created. However, as the design of teacher performance appraisal is linked to school

management<sup>61</sup>, problems raised during performance appraisal may emanate from shortcomings in school management. A noteworthy amount of the literature concentrates on finding the relationships between teacher performance appraisal and school performance (Fletcher, 2001; Kettl and Kelman, 2007; De Andrés *et al.*, 2010). However, more attention should be turned to exploring the relationships between school management and the performance appraisal implemented in schools. The author sought evidence about the characteristics of school management that help shape pedagogues' opinions about the performance appraisal implemented in their schools. However, as the results in Table 15 show that the perceived fairness of performance appraisal and its influence on teachers' work performance are the most problematic issues, then the further analysis concentrates on finding which approach to school management fashion pedagogues opinions about performance appraisal having an influence on teachers' work performance and the perceived fairness of the teacher performance appraisal system. The results of the correlation analysis reflect statistically significant relationships between the characteristics of strategic management in schools and pedagogues' opinions about the performance appraisal implemented in their schools (see Table 16).

**Table 16.** Correlations between the characteristics of strategic management in schools and pedagogues' opinions about the teacher performance appraisal implemented in their schools

Strategic management characteristics	PA influences work performance		PA system is fair	
	$\rho$	N	$\rho$	N
1: Vision and mission are defined	0.17**	847	0.21**	818
2: School performance indicators are defined	0.21**	286	0.17**	280
6: Teachers understand their role in dev. plan	0.27**	2,289	0.35**	2,207
7: Development plan has been introduced to interest groups	0.24**	2,265	0.29**	2,182
8: The trends in society are considered when planning school activities	0.24**	2,289	0.32**	2,206
9: School changes are based on the analysis of previous activities	0.32**	2,282	0.4**	2,203
10: Pupil and parent feedback is involved	0.27**	2,231	0.37**	2,154
11: Teachers are involved in activity plan design	0.36**	2,187	0.45**	2,119

Note: The number before the claim refers to its number in the questionnaire (see Appendix 3); Spearman correlation;  $\rho$ - correlation coefficient; \*\*correlation significant at 0.01 level; Correlation coefficients higher than 0.3 are in boldface<sup>62</sup>; N – sample size; PA – performance appraisal. Source: author's calculations

<sup>61</sup> See the relationships between school management and performance appraisal design in Figure 8, “Stages in developing a performance appraisal system”, p. 67.

<sup>62</sup> In some social sciences situations (e.g. where the measures are based on 5-point Likert scales), a correlation of 0.3 might be regarded as relatively strong and a correlation of 0.5 might be regarded as very strong (De Vaus, 2002).



However, the results indicate that strategic management has a more intense influence on the perceived fairness of teacher performance appraisal. Similarly, based on the correlation analysis, some characteristics of strategic management affect pedagogues' opinions relatively more compared to others (the relationships that are relatively strong are in boldface), and therefore, they are studied more specifically hereafter. Making changes within the school based on an analysis of previous actions and the teachers' involvement in designing the school action plan are those activities that matter in both fashioning pedagogues' opinions about the influence of performance appraisal in teachers' work performance and about the fairness of the performance appraisal system (see Table 17).

**Table 17.** Pedagogues' opinions of the teacher performance appraisal implemented in their school with respect to characteristics of strategic management

Claim	Statistics	Changes based on the analysis		Mann-Whitney U-test results
		Positive	Negative	Z-test value
PA has an influence on teachers' work performance	Mean (SD) N	3.63 (0.98) 1,966	2.18 (1.12) 66	-9.27*
PA system in the school is fair	Mean (SD) N	3.73 (0.91) 1,911	2.05 (0.99) 57	-10.21*
PA has an influence on teachers' work performance	Mean (SD) N	3.74 (0.94) 1,557	2.6 (1.17) 171	-11,9*
PA system in the school is fair	Mean (SD) N	3.85 (0.85) 1,532	2.47 (1.05) 152	-14.35*

Note: \* significant difference between groups at 0.05 level; 5-point scale; SD – standard deviation; N – sample size; PA – performance appraisal; “Positive” answers rather or totally agree; “Negative” answers rather or totally not agree; The answers “hard to evaluate, do not really know” are not presented in this table

Source: compiled by the author

Furthermore, the results indicate that in schools where changes are based on the analysis of previous activities, pedagogues have statistically significantly higher opinions about the fairness and the influence of performance appraisal. In addition to the aforementioned, the perceived fairness of the teacher performance appraisal may be due to teachers understanding their role in the school development plan, schools considering trends in society while planning their activities and involving pupil and parent feedback in the strategic management process (see Table 18).

**Table 18.** Pedagogues’ opinions about the fairness of the teacher performance appraisal implemented in their schools with respect to characteristics of strategic management

Claim		PA system implemented in the school is fair		Mann-Whitney U-test results
		Mean (SD)	N	Z-test value
Teachers understand their role in school development plan	Pos.	3.77 (0.89)	1,775	-8.94*
	Neg.	2.39 (1.14)	64	
The trends in society are considered in planning activities	Pos.	3.7 (0.91)	1,997	-6.9*
	Neg.	2.34 (1.2)	41	
Pupil and parent feedback is involved (satisfaction inquiries)	Pos.	3.74 (0.91)	1,786	-9.9*
	Neg.	2.44 (1.08)	81	

Note: \* significant difference between groups at 0.05 level; 5-point scale; SD – standard deviation; N – sample size; PA – performance appraisal; “Pos.” answers rather or totally agree; “Neg.” answers rather or totally not agree; The answers “hard to evaluate, do not really know” are not presented in this table

Source: compiled by the author

The results indicate the importance of good planning, as it provides necessary information for setting the goals of the organisation, which also provide a clear vision for designing the teacher performance appraisal system itself. Good planning means that schools should combine both the analysis of the external environment (trends in society, pupil and parent feedback) and internal school issues (the analysis of previous activities). The results also indicate the importance of involvement during strategic management. Pedagogues have statistically significantly higher opinions of the fairness and influence of teacher performance appraisal in schools, when teachers are involved in designing the action plan. This may be important for several reasons. Firstly, teacher involvement in this phase may help them understand what is expected of them during the implementation phase of the new strategy. As the results showed, teachers who understand their role in implementing the school development plan have statistically higher expectations of the performance appraisal system for evaluating their performance. Secondly, if the teachers are involved, they have an opportunity to share their views in the most important activities required in order to raise school performance. Because they are responsible for the educational process more directly, it is even essential to involve their perspective. Likewise, if teachers come up with activities that are crucial to the school action plan, they may be more willing to achieve them. The importance of teacher involvement in strategic management in schools was emphasised by the school headmaster representing one of the well performing Estonian general educational schools participating in the case studies performed during this dissertation (see Appendix 8). *“Every teacher has to be a part of the school’s overall vision, but this requires good relations with teachers and their involvement*

*in school management decisions*". Therefore, despite the common understanding that teachers are primarily responsible for developing the learning process and learning environment and because of that their performance is appraised on the basis of those activities, teacher participation in school management should be emphasised as well. As teachers are a part of the school's vision then they should have the opportunity to design that vision as well. However, it is worth mentioning that although the Estonian study indicated that the majority of Estonian general educational schools follow the aforementioned activities (make changes based on trends in society and the analysis of previous activities, and involve teachers in action plan design), school headmasters should turn more attention to the process of strategic management and to the critical aspects that may later have a negative influence on the school performance management system as a whole.

The correlation analysis reflects significant relationships between the characteristics of school resource management and pedagogues' opinions about the teacher performance appraisal system implemented in their schools (Table 19).

**Table 19.** Correlations between characteristics of school resource management and pedagogues' opinions about the teacher performance appraisal implemented in their school

Resource management characteristics	PA influences teachers' work performance		PA system in the school is fair	
	$\rho$	N	$\rho$	N
26: School resources are used according to development plan and budget	<b>0.3**</b>	1,941	<b>0.44**</b>	1,888
27.3: Teachers are involved in school budget design	0.2**	2,314	0.28**	2,223
28: School has monetary resources to execute development plan	0.21**	2,035	0.25**	1,969
32: School struggles to pay costs at the end of the year	0.01	1,799	-0.06*	1,751
34: School monetary resources are used effectively	<b>0.3**</b>	1,978	<b>0.44**</b>	1,928
39: The need for human resources is analysed regularly	0.29**	2,001	<b>0.38**</b>	1,945

Note: The number before the claim refers to its number in the questionnaire (see Appendix 3); Spearman correlation;  $\rho$ - correlation coefficient; \*correlation is significant at 0.05 level; \*\*correlation significant at 0.01 level; correlation coefficients higher than 0.3 are in boldface; N – sample size; PA – performance appraisal

Source: author's calculations

Although several characteristics are related to pedagogues' opinions about performance appraisal, the most critical aspects (relatively strong relationships are

marked in boldface) in influencing pedagogues' opinions about performance appraisal, however, seem to be pedagogues' perceptions about whether school resources are used according to the school's development plan and budget and whether the school's monetary resources are used effectively (see Table 20). Although both of these characteristics of resource management influence pedagogues' opinions about performance appraisal affecting teachers' work performance and about the fairness of this system, the more significant relationships may be recognised in shaping the perceived fairness. In schools where pedagogues have higher opinions of the effective usage of the school's resources and their accordance with the school budget and development plan, pedagogues have statistically significantly higher opinions of the teacher performance appraisal implemented in their school.

**Table 20.** Pedagogues' opinions of the teacher performance appraisal implemented in their school with respect to using school resources in accordance with the development plan and budget and the effectiveness of this usage

Claim	Statistics	Using resources in accordance with dev. plan and budget		Mann-Whitney U-test results
		Positive	Negative	Z-test value
PA has an influence on teachers' performance	Mean (SD) N	3.69 (0.94) 1,616	2.75 (1.25) 53	-5.46*
PA system implemented in the school is fair	Mean (SD) N	3.81 (0.86) 1,580	2.57 (1.18) 47	-7.1*
PA has an influence on teachers' performance	Mean (SD) N	3.71 (0.95) 1,445	2.83 (1.21) 111	-7.7*
PA system implemented in the school is fair	Mean (SD) N	3.86 (0.85) 1,414	2.76 (1.2) 105	-9.3*

Note: \* significant difference between groups at 0.05 level; 5-point scale; SD – standard deviation; N – sample size; PA – performance appraisal; Dev. plan – development plan, “Positive”– answers rather or totally agree; “Negative” – answers rather or totally not agree; The answers “hard to evaluate, do not really know” are not presented in this table

Source: compiled by the author

An important aspect in considering the fairness of performance appraisal is whether schools analyse their human resources. In schools that do this regularly, pedagogues have much more positive opinions (see Table 21). This is understandable as human resource decisions (e.g. recruitment, retention, training etc.) should be based on performance appraisal results. Therefore, as performance appraisal is usually run regularly in schools (at least once a year), then the results of the teacher appraisal should provide important input for making conclusions about human resources and necessary steps in developing school personnel.

**Table 21.** Pedagogues’ opinions about the fairness of the teacher performance appraisal implemented in their schools with respect to regularly analysing the need for human resources

Claim	Statistics	Analysing the need for human resources regularly		Mann-Whitney U-test results
		Positive	Negative	Z-test value
PA system implemented in the school is fair	Mean (SD) N	3.83 (0.88) 1,440	2.45 (1.12) 99	-11.2*

Note: \* significant difference between groups at 0.05 level; 5-point scale; SD – standard deviation; N – sample size; PA – performance appraisal; “Positive” answers rather or totally agree; “Negative” answers rather or totally not agree; The answers “hard to evaluate, do not really know” are not presented in this table

Source: compiled by the author

Evidence about those relationships can be found from the case studies (see Appendix 8), where all teachers from two of the schools indicated that school management and performance appraisal are linked, as appraisal provides valuable information for making school management decisions. To be more specific, they also pointed out that performance appraisal provides valuable information for planning teacher workload, subjects, homeroom teaching and teacher training. However, the results of the correlation analysis and Mann-Whitney U-test may also indicate that when teacher performance appraisal is just executed because it is compulsory<sup>63</sup> for schools and does not have a high degree of influence on the performance feedback given to teachers, school budget nor on the assistance to teachers to improve their teaching skills as mentioned in the OECD study (OECD, 2008), then the performance appraisal system is rather seen as being unfair.

Therefore, in order to create a fair teacher performance appraisal system that is also believed to provide good information for improving teachers’ performance, school resources should be allocated according to the strategic aims and also on the basis of the needs that arise from the organisation. If this does not occur, for example, if the core activities listed in the school development plan for achieving the school’s objectives are not supported with the necessary tangible and intangible resources, then it is difficult to develop these activities in order to achieve the desired performance level. However, as mentioned in the theoretical literature, performance appraisal should provide a link between the teachers’ performance and the strategy of the school (Rogers, 1990; Mwita, 2000; Lohman *et al.*, 2004; Krishnapillai, 2009). Hence, in order to ensure that the performance appraisal system achieves the school’s objectives, resource allocation should be in accord with these objectives. Likewise, miscommunication

<sup>63</sup> School internal evaluation has been compulsory in Estonian schools since 2010.

may cause teachers to concentrate on other aspects that are also valued via resources, which certainly downgrades the schools' development plans.

It is somewhat surprising that although teacher involvement in school budget design is related to pedagogues' opinions about teacher performance appraisal, the relationship is modest. Similarly, whether the school struggles to pay its costs at the end of the year, does not affect pedagogues' opinions about the influence of performance appraisal on the performance of teachers and has only a minimal effect on the perceived fairness of performance appraisal. Therefore, managing monetary resources is rather seen as the responsibility of school headmasters. However, it is still useful to share responsibility for planning the allocation of monetary resources with teachers in order to allow teachers to express their opinion about whether the resource allocation supports the implementation of the school's development plan.

The correlation analysis about the relationships between characteristics of organisational culture and pedagogues' opinions about teacher performance appraisal provides evidence of the crucial role of paying attention to the human side of management (see Table 22).

**Table 22.** Correlations between characteristics of school organisational culture and pedagogues' opinions about the teacher performance appraisal implemented in their school

Organisational culture characteristics	PA has an influence on teachers' work performance		PA system in the school is fair	
	$\rho$	N	$\rho$	N
12.1: Headmaster involves teachers in school development and management	<b>0.32**</b>	2,296	<b>0.44**</b>	2,210
14: Communicating with headmaster is easy	0.21**	2,311	<b>0.4**</b>	2,222
15: Teachers follow ethical norms and principles	0.15**	2,283	0.26**	2,198
16: Headmaster follows ethical norms and principles	0.21**	2,279	<b>0.39**</b>	2,196
19: School keeps in touch with its alumni	0.22**	2,198	0.28**	2,129
20: Teachers are active in the public life of the community	0.22**	2,249	0.28**	2,165
21: School values teachers' achievement internationally, nationally, regionally and locally	<b>0.31**</b>	2,282	<b>0.46**</b>	2,198

Note: The number before the claim refers to its number in the questionnaire (see Appendix 3); Spearman correlation;  $\rho$  – correlation coefficient; \*\*correlation significant at 0.01 level; correlation coefficients higher than 0.3 are in boldface; N – sample size; PA – performance appraisal  
Source: author's calculations

Although all the characteristics of organisational culture have a statistically significant influence on pedagogues' opinions about the teacher performance appraisal implemented in their schools, some critical activities can once again be highlighted (relatively strong relationships in boldface). Firstly, the results indicate the importance of the school manager encouraging the teachers, more specifically, valuing the teachers' achievements and participation in school development and management. The study shows that in schools where teachers are involved in school development and management, pedagogues are more likely to think the performance appraisal is fair and has an influence on teachers' work performance (see Table 23).

**Table 23.** Pedagogues' opinions of the teacher performance appraisal implemented in their school with respect to teacher involvement in the development and management of their school and valuing teachers' achievements

Claim	Statistics	Involving teachers in school development and management		Mann-Whitney U-test results
		Positive	Negative	Z-test value
PA has an influence on teachers' work performance	Mean (SD) N	3.68 (0.95) 1,804	2.5 (1.2) 125	-10.51*
PA system implemented in the school is fair	Mean (SD) N	3.8 (0.86) 1,757	2.3 (0.98) 115	-13.61*
PA has an influence on teachers' work performance	Mean (SD) N	3.65 (0.95) 1,870	2.48 (1.24) 107	-9.48*
PA system implemented in the school is fair	Mean (SD) N	3.79 (0.86) 1,810	2.26 (1.01) 99	-12.73*

Note: \* significant difference between groups at 0.05 level; 5-point scale; SD – standard deviation; N – sample size; PA – performance appraisal; “Positive” answers rather or totally agree; “Negative” answers rather or totally not agree; The answers “hard to evaluate, do not really know” are not presented in this table

Source: compiled by the author

This concurs with the theory emphasised by several authors (Macaulay and Cook, 1994; Lohman *et al.*, 2004) that teacher involvement in the strategic management guarantees that they understand their role in implementing the development plan and makes communicating the strategic objectives to all school levels easier. Therefore, teacher involvement in managing their school may help create the understanding that school development and school activities are linked to each other, and performance appraisal is one tool for helping teachers raise their individual performance, which then leads to increased school performance. As teacher involvement in school development is seen as an important tool for fashioning opinions about performance appraisal, school

headmasters should motivate teachers to participate in the management of their school. Therefore, appraisal criteria that measure teacher involvement in the management and development of their school may be very useful.

Another aspect of encouragement involves school headmasters valuing the teachers' achievement. In schools where headmasters value the teachers' international, national, regional and local achievements, the opinions of performance appraisal are statistically significantly higher compared to schools where teachers' achievements are not recognised. The literature highlights the importance of organisational culture (Lancer Julnes and Holzner, 2001; Martins and Terblanche, 2003) as it creates the atmosphere for goal achievement in the organisation. In the author's opinion, valuing the teachers' achievement is important as it creates a favourable atmosphere for a performance oriented approach, and motivating teachers to raise their performance should be the main idea behind teacher performance appraisal.

Secondly, the results indicate the importance of communication between headmasters and teachers, and furthermore, the ethical behaviour of headmasters in order to establish the perception that performance appraisal is fair (see Table 24). For example, as in the literature (Kelly *et al.*, 2008; Hanley and Nguyen, 2005), where it is easy to communicate with school headmasters in Estonian schools, performance appraisal is seen as being fair compared to schools where difficulties in communication have been observed.

**Table 24.** Pedagogues' opinions about the fairness of the teacher performance appraisal implemented in their school with respect to communication between headmasters and teachers and following ethical norms

Claim		PA system implemented in the school is fair		Mann-Whitney U-test results
		Mean (SD)	N	Z-test value
Communicating with the school headmaster is easy	Pos.	3.74 (0.89)	1,910	-11.77*
	Neg.	2.34 (1.01)	96	
School headmaster follows ethical norms and principles	Pos.	3.71 (0.91)	1,982	-9.3*
	Neg.	1.98 (1.01)	45	

Note: \* significant difference between groups at 0.05 level; 5-point scale; SD – standard deviation; N – sample size; PA – performance appraisal; “Pos.” answers rather or totally agree; “Neg.” answers rather or totally not agree; The answers “hard to evaluate, do not really know” are not presented in this table

Source: compiled by the author

However, not only is communication essential, but as headmasters are supposed to evaluate teachers' individual performance, then their ethical behaviour creates a fair atmosphere and trust among teachers. However, it is interesting that ethical behaviour among the teachers does not have as large an influence on



perceptions of performance appraisal compared to the behaviour of headmasters. Despite the fact that only a small number of pedagogues pointed out that the school headmaster does not follow ethical norms, it is still worth mentioning that in those schools where the school managers were seen as unethical, there was a very low general opinion of the fairness of performance appraisal.

Trust between the headmasters and teachers in executing performance appraisal was emphasised by the headmasters and teachers in one school that participated in the case study. This school (school No. 2, see Appendix 8) is exceptional because in this school performance appraisal is not implemented regularly for all teachers, but is performed when problems arise. Every teacher is expected to contact the school headmaster when problems are witnessed and then the teachers' performance is appraised also pointing out solutions for overcoming the problematic issues with the headmaster. Additional roundtables involving all teachers may be performed in order to raise teacher performance as well. Therefore, in order to run this kind of performance appraisal practice, headmasters should have a very high level of trust with the teachers and a high belief in their motivation to improve. The headmaster of this school explained that formal performance appraisal is not necessary as teachers are very highly motivated in their school. Teachers, however, value this kind of system because they feel that they are not being controlled and they trust their headmasters. These last two aspects are highlighted as the most important advantages of the performance appraisal system in their school. The third advantage is that regular performance appraisal is only conducted with new teachers. Performance appraisal in this school is dependent on the teachers' level of experience. New teachers are evaluated and provided feedback more frequently, which enhances their self-esteem and confidence. In the headmasters view it is important to support new teachers so that they gather knowledge from senior teachers. "*Cooperation and the habit of sharing knowledge and experience with others is an important part of our school culture*". Therefore, school No.2 provides valuable evidence of the importance of organisational culture in designing teacher performance appraisal.

To conclude, it is essential to note that the previous results on organisational culture emphasise the behaviour of headmasters and the ability to create a good atmosphere for performance appraisal. Therefore, the "soft values" that are in accordance with the organisational culture should be valued in addition to the performance-oriented management strategy. This is relevant because, as the study conducted by Aaltio (2008) among Estonian business students proved, Estonian managers stressed the material or hardware side of business, while the human or soft side of problems was not emphasised as much. However, Estonian school headmasters today are more like business managers aiming to increase school performance, which raises the concern that in order to achieve key performance indicators at the government level, they may forget to develop their organisational culture.

Therefore, the analysis in this study noted the importance of the quality of the characteristics of school management providing evidence that strong strategic

management, resource management and organisational culture is essential in fashioning pedagogues' opinions of the teacher performance appraisal implemented in their school. However, it is important to note that the positive influence of those characteristics of school management was also found when executing other methods of statistical analysis<sup>64</sup>. The regression analysis, where opinions about performance appraisal was the dependent variable and factors about characteristics of school management were independent variables<sup>65</sup>, indicated positive and statistically significant relationships in all school management factors (strategic management  $\beta=0.3$ , resource management  $\beta=0.1$  and organisational culture  $\beta=0.11$ ). However, those results need to be treated with caution because the descriptive level of this model is relatively low (Adjusted R Square 0.25). Despite the low descriptive level, the results are quite similar to the findings in the empirical study in this dissertation. The regression analysis emphasised the importance of the involvement of teachers and other interest groups, analysing previous activities and making sure teachers understand their role in schools during strategic management. During resource management, school activities in analysing revenues and costs and developing a material-technical base are noted. Finally, the regression analysis provided evidence that headmasters should put substantial effort into developing communication with teachers, valuing teachers' achievements, involving teachers in school management and developing and following ethical norms in their own behaviour. Therefore, the results of the regression analysis can be employed as additional source of evidence.

At this point, it is essential to note that the teachers' involvement was relevant in all cases of school management – strategic management, resource management and organisational culture. However, this raises the question of the importance of involvement during performance appraisal design, and whether the importance of teacher involvement in performance appraisal design is also supported in Estonian general educational schools. Table 15, at the beginning of this subchapter (p. 119), reflects that teachers have more negative views towards performance appraisal. However, the results reflect that there is a statistically significant variation in opinions held by teachers and school headmasters about sufficient involvement in the performance appraisal creation process. The results of the Mann-Whitney U-test reflect that teachers have statistically significantly lower opinions (3.61, SD 1.05) to involvement compared to school headmasters (mean 3.97, SD 0.78) (Z-test value -5.31,  $p=0.00$ ). Therefore, the study ascertained whether teachers were involved in the process of creating a

---

<sup>64</sup> The other statistical methods for exploring the relationships between school management and pedagogues' opinions about the teachers' performance appraisal system implemented in their school were performed during the project „Performance and analysis of its influencing drivers in general educational schools”. The specific results of the factor analysis and regression analysis are discussed in the project report on pages 182–184 (Türk *et al.*, 2011).

<sup>65</sup> See the description about this measurement tool from subchapter 2.1.2, pp. 108–109.

performance appraisal system in Estonian general educational schools, and how this has affected the implementation of teacher performance appraisal in Estonian general educational schools.

Table 25 more specifically presents the influence of teacher involvement in the process of creating performance appraisal.

**Table 25.** Teachers' opinions of the teacher performance appraisal implemented in their school with respect to teacher involvement

Claim	Statistics	Teacher involvement		Mann-Whitney U-test results
		Involved	Not involved	Z-test value
PA is organised systematically in our school	Mean (SD) N	4.35 (0.68) 1,160	2.77 (1.15) 282	-20.03*
The principles of PA are well understood	Mean (SD) N	4.37 (0.66) 1,164	2.41 (0.98) 293	-24.39*
PA system measures teachers' performance fairly	Mean (SD) N	4.01 (0.8) 1,134	2.38 (0.92) 248	-20.54*

Note: \* significant difference between groups at 0.05 level; 5-point scale; SD – standard deviation; N – sample size; PA – performance appraisal; “Not involved” rather or totally not involved; “Involved” rather or totally involved; The answers “hard to evaluate, do not really know” are not presented in this table

Source: compiled by the author

Calculating teachers' opinions of performance appraisal using the Mann-Whitney U-test shows that teachers who have been involved in the process of creating performance appraisal have statistically significantly higher opinions of the performance appraisal executed in their schools. Although only a little over 10% of the teachers' indicated that they were not involved in the process of creating teacher performance appraisal, they had extremely low opinions about the systematic organisation of performance appraisal, about its fairness and the principles were also often not understood.

However, it is important to ascertain whether the lack of involvement would influence teachers' opinions towards the implementation of performance appraisal in general. The results indicate statistically significant and very high correlations between teacher involvement and their opinions of the performance appraisal system used to evaluate their individual performance at school (Table 26).

**Table 26.** Correlations between teacher involvement and teachers’ opinions of system of performance appraisal implemented in their school

	Teacher involvement	
	$\rho$	N
PA is organised systematically on our school	0.59**	2,248
PA and its principles are well understood	0.70**	2,269
PA has an influence to teachers’ work performance	0.47**	2,237
PA system enables to measure teachers' performance fairly	0.61**	2,170
The feedback about teachers’ work performance is sufficient	0.54**	2,270

Note: Spearman correlation;  $\rho$  – correlation coefficient; \*\*correlation significant at 0.01 level; N – sample size; PA – performance appraisal  
Source: author’s calculations

The question of teacher involvement was raised during the case studies as well. Two schools that were studied (School No.1 and No.3, see Appendix 8) were quite similar in their pattern of involving teachers. Both of them had built their performance appraisal system based on self-evaluation reports developed during the schools’ compulsory internal evaluation<sup>66</sup>. Therefore, although teachers have an opportunity to make proposals, the headmasters themselves observe that the performance appraisal system is rather forced for the teachers. School No.2 however, which had not implemented this kind of forced performance appraisal for teachers, had created a system that is much more accepted by the teachers and relies on trust. The headmaster of this school notes that involvement during performance appraisal is central to evaluating teachers’ performance and teachers agree with this opinion. However, the larger differences between the schools with a forced performance appraisal system and the school that appraises teachers based on problems as they arise and involves teachers is that the views towards performance appraisal are more negative in the first group of schools. For example, they highlight several disadvantages, furthermore, performance appraisal is repeatedly referred to as an obligation for teachers that takes a lot of time and does not have much influence. One of the teachers in school No.1 said “*when teachers see that the headmaster values their opinions, the teachers are more motivated to develop and see the usefulness of performance appraisal from this*”.

Therefore, the Estonian study provided similar evidence about the high importance of teacher involvement in the creation of performance appraisal. This is similar to the findings of several studies (Williams and Levy, 1992; Cawley *et al.*, 1998; Roberts, 2003; Becton *et al.*, 2008; Kelly *et al.*, 2008), which emphasise that if teachers are not involved, they are not certain about which performance dimensions are being assessed, what constitutes “good performance” or

<sup>66</sup> Read more about school evaluation from subchapter 1.1.2.

how heavily dimensions of the job are weighted in performance appraisal systems. Consequently, they experience role ambiguity and related negative consequences, resulting in more negative opinions. Therefore, while developing a teacher performance appraisal system, school headmasters should do this in cooperation with teachers.

### 2.2.2. The current usage of teacher performance appraisal criteria and pedagogues' preferences in selecting performance appraisal criteria

Despite the reams of literature on the topic of the positive effects of performance management on school performance<sup>67</sup>, selecting reliable criteria for measuring the performance of teachers has still remained the most problematic and central feature in creating a teacher performance appraisal system. As selecting performance appraisal criteria is primarily related to finding measures for the learning process and learning environment (see also the recommended stages in developing a performance appraisal system in Figure 8, p. 67), the relationships between teachers' activities (learning process and environment) and pedagogues' opinions about the performance appraisal implemented in their school should also be identified. This is especially relevant because as school management creates a supportive framework for teaching pupils, then the learning process and environment are directly related to the development of the pupils' knowledge and skills. The results indicate that all characteristics of the learning process are related to pedagogues' opinions about the teacher performance appraisal implemented in schools (see Table 27). However, there are only two critical aspects with relatively strong relationships (marked in bold-face) that encourage positive opinions about both the fairness and influence of teacher performance appraisal on teachers' work performance.

**Table 27.** Correlations between characteristics of the learning process and pedagogues' opinions about the teacher performance appraisal implemented in their school

Learning process characteristics	PA has an influence on teachers' work performance		PA system in the school is fair	
	$\rho$	N	$\rho$	N
87: Pupils learn things necessary for life	0.28**	2,297	<b>0.32**</b>	2,208
89: Pupils are being taught based on their individual abilities	0.27**	2,291	<b>0.32**</b>	2,202

<sup>67</sup> See a more specific discussion about the gains of performance management from subchapter 1.1.1.

Learning process characteristics	PA has an influence on teachers' work performance		PA system in the school is fair	
	$\rho$	N	$\rho$	N
90: The support systems are developed based on pupil needs	0.24**	2,267	<b>0.31**</b>	2,179
91: School deals with developing pupils' interests and talent	0.29**	2,278	<b>0.34**</b>	2,191
93: Pupil academic performance is analysed systematically	0.3**	2,238	<b>0.35**</b>	2,159
94: Pupil development in general skills is analysed systematically	<b>0.33**</b>	2,195	<b>0.38**</b>	2,119
98: School supports pupil participation in olympiads, competitions etc.	0.22**	2,281	0.28**	2,195
99: Teachers use modern teaching methods	0.24**	2,255	0.27**	2,169

Note: The number before the claim refers to its number in the questionnaire (see Appendix 3); Spearman correlation;  $\rho$  – correlation coefficient; \*\*correlation significant at 0.01 level; correlation coefficients higher than 0.3 are in boldface; N – sample size; PA – performance appraisal  
Source: author's calculations

Firstly, the results indicate statistically significant differences between schools that analyse pupil academic results systematically and schools that do not. Likewise differences can be seen between schools that analyse the development of general skills among pupils as well (see Table 28).

**Table 28.** Pedagogues' opinions towards the teacher performance appraisal implemented in their schools with respect to analysing pupil academic performance and general skills

Claim	Statistics	Academic performance analysed systematically		Mann-Whitney U-test results
		Positive	Negative	Z-test value
PA has an influence on teachers' work performance	Mean (SD) N	3.68 (0.98) 1,730	2.84 (1.07) 151	-9.06*
PA system implemented in the school is fair	Mean (SD) N	3.77 (0.91) 1,685	2.82 (1.09) 137	-9.59*
PA has an influence on teachers' work performance	Mean (SD) N	3.79 (0.96) 1,271	2.92 (1.04) 271	-12.19*
PA system implemented in	Mean (SD)	3.88 (0.9)	2.92 (1.02)	-13.06*

Claim	Statistics	Academic performance analysed systematically		Mann-Whitney U-test results
		Positive	Negative	Z-test value
the school is fair	N	1,245	243	

Note: 5-point scale; SD – standard deviation; N – sample size; PA – performance appraisal; “Positive” answers rather or totally agree; “Negative” answers rather or totally not agree; The answers “hard to evaluate, do not really know” are not presented in this table

Source: compiled by the author

The results reflect the link between the objectives set for Estonian general educational schools. Both primary and secondary schools in Estonia have an educative task combined with contributing to the raising of children. Estonian general educational schools aim to produce creative, multifaceted, socially mature young people that are reliable, conscious of their own objectives and achievement-oriented in different fields of life: as a partner in personal life, as a culture bearer and developer, as an employer in different occupations and roles and as a person responsible for guaranteeing the sustainability of society and natural environment (Põhikooli- ja gümnaasiumiseadus, 2010). In order to achieve this task, knowledge should be combined with general skills which also create the need to evaluate both the development of pupil academic performance and general skills. However, when schools have the systematic understanding of the development of pupil academic performance and general skills then it is also possible to monitor the performance of teachers more systematically because both of these aspects reflect the direct outcomes of the learning process.

In addition, in schools where pupils learn things necessary for life, pupils are taught based on their individual abilities, support systems are developed based on pupil needs and pupils’ interests and talents are developed, performance appraisal is seen as fairer (see Table 29).

**Table 29.** Pedagogues’ opinions towards the fairness of teacher performance appraisal implemented in their schools with respect to characteristics of the learning process

Claim		PA system implemented in the school is fair		Mann-Whitney U-test results
		Mean (SD)	N	Z-test value
In our schools pupils learn things necessary for life	Pos.	3.74 (0.93)	1,701	-6.66*
	Neg.	2.62 (1.18)	50	
Pupils are being taught based on their individual abilities	Pos.	3.73 (0.93)	1,744	-4.42*
	Neg.	2.7 (1.11)	66	
Support systems are based on pupils’ needs	Pos.	3.7 (0.93)	1,911	-7.5*
	Neg.	2.39 (1.19)	49	

Claim		PA system implemented in the school is fair		Mann-Whitney U-test results
		Mean (SD)	N	Z-test value
School deals with developing pupils' interests and talents	Pos.	3.79 (0.91)	1,549	-9.76*
	Neg.	2.76 (1.06)	113	

Note: \* significant difference between groups at 0.05 level; 5-point scale; SD – standard deviation; N – sample size; PA – performance appraisal; “Pos.” answers rather or totally agree; “Neg.” answers rather or totally not agree; The answers “hard to evaluate, do not really know” are not presented in this table

Source: compiled by the author

These results are not surprising because if the likelihood of receiving positive feedback on one's work performance is high, there is less resistance to the appraisal process – little fear of potential mistakes. All the aspects mentioned in the table encourage pupil interest in learning, and therefore, also form a good basis for better pupil performance.

In addition to the learning process, which is more directly related to gaining skills and knowledge in the classroom, the importance of the learning environment in supporting the creation of a good learning process is emphasised in the literature and in practices abroad (Department of Education, 2000). The learning environment means the classroom climate during the learning process (following rules and discipline, pupils understand what teachers expect of them, encouraging pupils, fair treatment, involving pupils<sup>68</sup>). The work of teachers in measuring the learning environment is surely more difficult compared to developing the learning process, but this does not mean that the learning environment does not matter in achieving higher school performance. Therefore, a correlation analysis is conducted in order to determine the relationships between the learning environment and pedagogues' opinions about the performance appraisal implemented in their school. The correlation analysis about the characteristics of the learning environment (see Table 30) shows relatively strong relationships (marked in boldface) only for the perceived fairness of teacher performance appraisal.

**Table 30.** Correlations between the characteristics of the learning environment and pedagogues' opinions about teacher performance appraisal

Learning environment characteristics	PA influences teachers' work performance		PA system implemented is fair	
	$\rho$	N	$\rho$	N
81: Pupils understand what teachers expect of	0.23**	2,287	0.29**	2,203

<sup>68</sup> See also Figure 6, p. 49.



Learning environment characteristics	PA influences teachers' work performance		PA system implemented is fair	
	$\rho$	N	$\rho$	N
them				
82: Pupils are encouraged to give their best	0.25**	2,303	<b>0.3**</b>	2,214
83: Pupils follow the rules and discipline	0.22**	2,305	<b>0.3**</b>	2,216
84: Teachers care for pupils	0.22**	2,308	0.29**	2,220
85: Teachers treat pupils fairly	0.24**	2,289	<b>0.3**</b>	2,204
86: Pupils can always turn to the teacher with his/her problem	0.22**	2,295	<b>0.3**</b>	2,210
97: Pupils are involved in organising school life	0.28**	2,227	<b>0.34**</b>	2,149

Note: The number before the claim refers to its number in the questionnaire (see Appendix 3); Spearman correlation;  $\rho$  – correlation coefficient; \*\*correlation significant at 0.01 level; correlation coefficients higher than 0.3 are in boldface; N – sample size; PA – performance appraisal  
Source: author's calculations

However, how fair performance appraisal is seen depends a lot on how capable the pedagogues are in creating a good learning environment (see Table 31).

**Table 31.** Pedagogues' opinions of the fairness of the teacher performance appraisal implemented in their schools with respect to the learning environment

Claim		PA system implemented in the school is fair		Mann-Whitney U-test results
		Mean (SD)	N	Z-test value
Pupils are encouraged to give their best	Pos.	3.68 (0.93)	1,967	-4.09*
	Neg.	2.79 (1.34)	38	
Pupils follow the rules and discipline	Pos.	3.79 (0.91)	1,422	-8.02*
	Neg.	2.95 (1.12)	118	
Teachers treat pupils fairly	Pos.	3.69 (0.93)	1,950	-2.27*
	Neg.	3.13 (1.22)	23	
Pupils can always turn to the teacher with their problems	Pos.	3.68 (0.94)	1,953	-4.12*
	Neg.	2.79 (1.24)	29	
Pupils are involved in organising school life	Pos.	3.77 (0.91)	1,574	-8.07*
	Neg.	2.88 (1.13)	109	

Note: \* significant difference between groups at 0.05 level; 5-point scale; SD – standard deviation; N – sample size; PA – performance appraisal; "Pos." answers rather or totally agree; "Neg." answers rather or totally not agree; The answers "hard to evaluate, do not really know" are not presented in this table  
Source: compiled by the author

However, this is similar to that which was mentioned previously that in schools that create an atmosphere for pupil development (e.g. interest in learning or in the learning process) there is also greater potential for pupil progress, and therefore, also less negative opinions about teacher performance appraisal.

Therefore, to conclude, both the learning process and learning environment are relevant in the context of the fairness of teacher performance appraisal. These results may stem from the aspects highlighted earlier<sup>69</sup> that as those two characteristics of teachers' activities are directly related to developing pupil performance, then most often those activities are taken as the basis for developing performance appraisal criteria for assessing the individual work performance of teachers. However, these results about the learning process and learning environment also reflect that the teacher performance appraisal system should not only assess the performance of teachers in raising pupil academic performance but also their work in encouraging an interest in learning and a motivating and cooperative atmosphere. If the performance appraisal fails to capture this, then it is seen as being more unfair. Therefore, the teachers' efforts in creating a good learning environment, teaching children things that are necessary for life and teaching based on the pupils' capabilities, interests and talents should also be assessed during teacher performance appraisal.

However, it is important to note that the positive influence of the learning process was also found when executing other methods of statistical analysis<sup>70</sup>. The regression analysis, where opinions about performance appraisal was the dependent variable and factors about the characteristics of teachers' activities were independent variables<sup>71</sup>, indicated positive and statistically significant relationships with the learning process ( $\beta=0.39$ ). The result indicated the importance of analysing the development of general skills, academic performance and capabilities among pupils, teaching based on pupil capability and talent, choice of extra-subjects based on pupils' interests, the use of modern teaching and learning methods and involving pupils in planning school life. Therefore, the results of the regression analysis provide additional evidence about the importance of similar characteristics pointed out in the empirical study of this dissertation. However, once again the results of the regression analysis need to be treated with caution, because the descriptive level of this model is relatively low (Adjusted R Square 0.25).

The main idea behind selecting the teacher performance appraisal criteria is that only the activities that are core activities (e.g. teaching pupils based on

---

<sup>69</sup> See the discussion about the educational process in subchapter 1.1.3, p. 37.

<sup>70</sup> The other statistical methods for exploring the relationships between characteristics of teachers' activities and pedagogues' opinions about the teacher performance appraisal system implemented in their school were performed during the project "Performance and the analysis of influential drivers in general educational schools". The specific results of the factor analysis and regression analysis are discussed in the project report on pages 182–184, (Türk *et al.*, 2011)

<sup>71</sup> See the description about this measurement tool in subchapter 2.1.2, p. 108–109.

capabilities and talent, teacher participation in school management etc.) that help schools to achieve their objectives and thus to enhance their performance as well should be monitored. Certainly, each school should initially define their objectives and those essential activities that will fulfil objectives. The fulfilment of school objectives is usually measured using performance indicators set by the schools. Thus, the criteria used as a basis for performance appraisal in Estonian general educational schools should accord with the performance indicators of school performance. Each school has the opportunity to define the indicators of school performance. However, as the Estonian Ministry of Education and Research has also defined key performance indicators in the education sector, which are also assessed during external school evaluations<sup>72</sup>, then schools are already motivated to define their performance according to the key performance indicators valued by the government. However, this approach is too casual and does not consider each school's unique characteristics.

Therefore, the study initially aimed to examine which performance indicators Estonian pedagogues use as the basis for defining school performance. In the study, the author asked pedagogues to identify the three most important school performance indicators in their schools. The answers to this question are of essential value, as they reveal which activities are considered important in Estonian schools and where the schools consider they have been successful. In addition, on the basis of these answers, it is possible to point out which activities need to be emphasised more. The answers from pedagogues to the open-ended questions are presented in Table 32. The findings indicate that unfortunately, at the present time, Estonian schools do not have a unified view about school performance because the performance indicators mentioned by the respondents vary considerably. For example, the most frequently mentioned indicator – current academic performance in terms of learning results, current grades or scores, and pupils managing at the current school level – was mentioned only 286 times. Therefore, although it is seen as the most important performance indicator, it was still only mentioned by less than 10% of all respondents.

Similarly, the results indicate that Estonian general educational schools rather concentrate on academic performance<sup>73</sup>, which may mean that teachers focus on preparing pupils for national examinations and standardised tests and not to participation in society. This worrying suggestion, which may drive schools away from dealing with pupils with poorer performance via learning support, away from dealing with pupil interests and away from considering the school's unique characteristics, has also been witnessed in studies abroad (Mayston, 2003). The three most frequently mentioned performance indicators were current academic performance, grades and results in the national examina-

---

<sup>72</sup> External evaluation based on Estonian general educational schools is described in subchapter 1.1.2.

<sup>73</sup> Academic performance stands for measurable learning outcomes such as results in national examinations, final examinations, grades or scores.

tion. In addition, the percentage of pupils continuing studies at the next level of education was also a frequently mentioned school performance indicator. However, this indicator is related to academic performance, as entrance to the next level of education is primarily based on the results of national examinations or on average grades.

**Table 32.** Ten most frequently mentioned school performance indicators in Estonian general educational schools

	<b>Indicators of school performance</b>	<b>No. of mentions</b>	<b>Whether this indicator is defined as a key performance indicator by the government<sup>1</sup></b>
1.	Current academic performance – study results, current grades or scores, pupils managing at the current school level	286	Yes
2.	The percentage/number of pupils continuing studies at the next level of education	257	Yes
3.	The results of national examinations	246	Yes
4.	Pupil, teacher and parent satisfaction with the school	209	No (only at school level)
5.	Pupil satisfaction with subjects studied, their interest and motivation to learn, positive opinions towards the school and learning processes, joy from knowledge	191	No
6.	Coping with life, life skills	185	No
7.	Pupil results and achievements in academic competitions and exhibitions	139	No
8.	The presence of well-qualified teachers in schools	138	Yes/No (information about the presence of teachers with the required qualification is available)
9.	The results and coping with learning at the next level of education (high school or university)	134	Yes/No (the percentage of pupils continuing studies at the next school level is available)
10	Low drop-out rate	103	Yes

Note: Total number of answers: 3,450. Only the ten most frequently mentioned school performance indicators are presented in this table.<sup>1</sup> The last column highlights whether this performance indicator is also listed as a key performance indicator by the Ministry of Education and Research and which is also evaluated during external school evaluations.

Source: author's calculations

Another implication can be made based on the last column in Table 32. This shows that the three most important school performance indicators are those that have been listed as key performance indicators by the Ministry of Education and Research and which are part of external school evaluations. That is also logical because as the performance of the school at the state level is appraised by government and local authorities based on those indicators. However, as mentioned in the theoretical section<sup>74</sup>, the problem with these criteria is that the individual performance of each teacher is actually very difficult to ascertain and academic performance is cumulative over time, and therefore, may reflect information about school performance that tends to be out of date (Hanushek, 1997; Lee and Barro, 2001).

However, it is worth mentioning that pedagogues also emphasised some school performance indicators that are qualitative in nature. For example, pupil, teacher and parent satisfaction with the school, pupil motivation and interest in learning and coping with life are seen as important outcomes of school performance. Unfortunately, all the key performance indicators evaluated at the state level and gathered during external evaluations are quantitative. In the author's view, setting only quantitative key performance indicators represents a considerable limitation, as activities that are qualitative in nature, and thus more difficult to measure, are not considered even though they may be very important in the context of achieving school objectives (e.g. establishing an interest in learning). Although quantitative key performance indicators are necessary in order to make comparisons between schools, concentrating exclusively on numerical values does not permit a more objective overview of the development of schools in Estonia. Because qualitative indicators are not valued at the state level, schools are more impelled to value the qualitative dimension of school performance themselves.

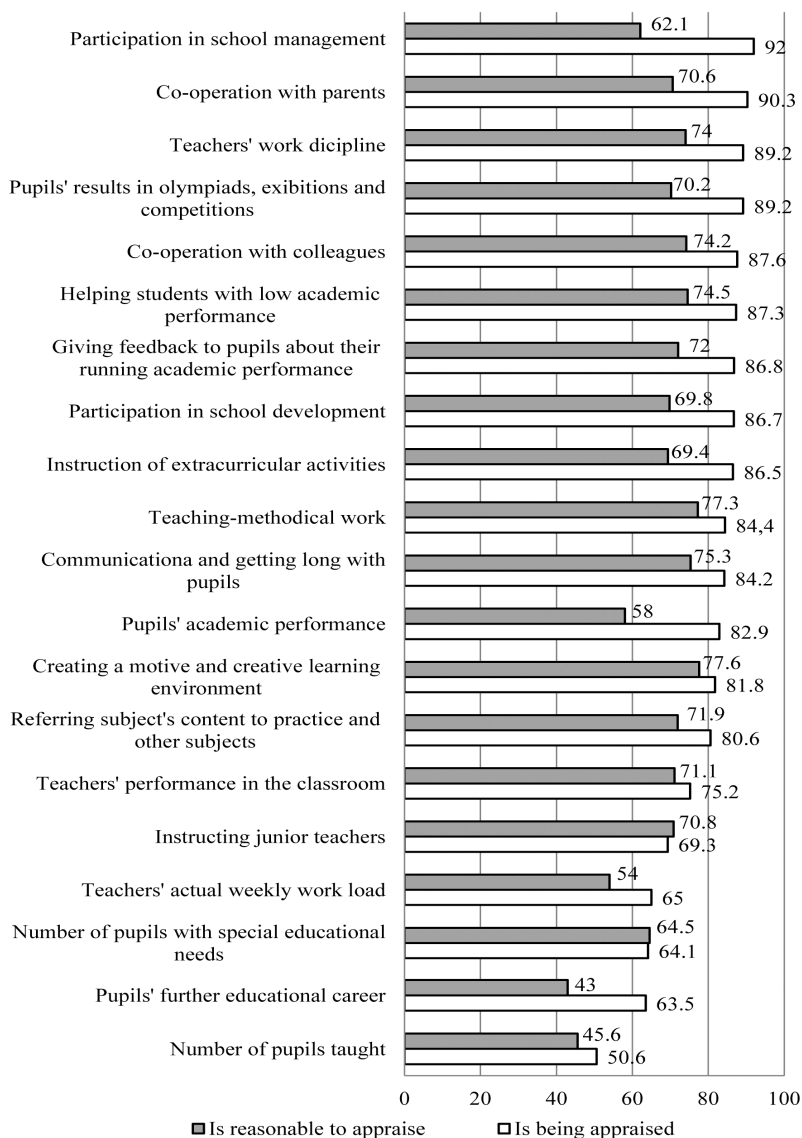
In addition, evidence has been found in the analysis presented in the previous subchapter (see subchapter 2.2.1.) that qualitative performance appraisal criteria contribute to the opinions pedagogues formulate towards the teacher performance appraisal system implemented in their schools. Therefore, there is a risk that, when school headmasters primarily concentrate on achieving key performance indicators set by the government, they may establish teacher performance appraisal that accords with achieving those rather narrow and general targets. This, however, forms a solid basis for teacher dissatisfaction with their appraisal system. In order to obtain an overview of the issues mentioned above, the current use and reasonableness of teacher performance appraisal criteria are identified and hereafter teachers' preferences are compared to headmasters' views in more detail.

A comparative overview of the teacher performance appraisal criteria used in Estonian general educational schools and pedagogues' opinions about how reasonable these are showed that there are some differences in how the criteria

---

<sup>74</sup> See a more detailed discussion of how school performance is evaluated in several studies and the problems of academic performance indicators in subchapter 1.1.3.

are used and which are reasonable to adopt (see Figure 19). Therefore, the findings make it possible to conclude that pedagogues do not see some of the criteria that are actively used for measuring the performance of teachers as very reasonable. Some criteria on the other hand are undervalued.



**Figure 19.** Performance appraisal criteria used in Estonian general educational schools and pedagogues’ opinions of how reasonable they are

Note: “Is being appraised” – % of answers “yes” to question whether teachers’ are appraised by that criteria in Estonian general educational schools; “Is reasonable to appraise” – % of answers rather and totally agree.

Source: authors’ calculations

To get a clearer overview of the gap between how reasonable the performance appraisal criteria are and their use in Estonian general educational schools, the author subtracted the percentage points awarded for how reasonable these criteria are from percentage points for the use of the performance appraisal criteria (see Appendix 9). The results indicate that almost all the performance appraisal criteria (except for two) are seen as less reasonable compared to their use in Estonian general educational schools. Only two criteria were more highly valued in terms of how reasonable they were compared to their use – instructing junior teachers and the number of pupils with special educational needs. Instructing junior teachers is important as it maintains the sustainability of the school staff. Dealing with pupils with special educational needs stems from the core objectives – producing citizens for society. However, as this needs more effort compared to dealing with regular pupils, then higher opinions of it being reasonable compared to its use is understandable. Therefore, as both of these activities require extra effort from teachers, these criteria should be seen as important performance appraisal criteria for measuring work effort among the teachers.

The results show that the gap between use and reasonability is remarkable in case of teacher participation in school management, pupil academic performance and pupil further educational career, indicating that many pedagogues see those criteria as being rather irrelevant. However, in order to understand whether the gap that exists between the opinions of how reasonable performance appraisal criteria are and the use of performance appraisal criteria was caused by differences between teachers and headmasters, additional analysis was conducted. The comparative view of teachers' and headmasters' preferences for the ten most reasonable teacher performance appraisal criteria are presented in Table 33. The results show that most preferences among pedagogues are more about criteria to do with the learning process and less about criteria to do with teachers creating a learning environment. However, the most reasonable criteria for assessing the performance of teachers in the opinions of both headmasters and teachers is related to the learning environment, in particular, establishing a motivating and creative learning environment. However, the table also shows that the views of headmasters and teachers about reasonable performance appraisal do differ. For example, during the learning process, teachers have emphasised the importance of pupil results in olympiads, exhibitions and competitions and instruction in extra-curricular activities that are not among the ten most valued performance appraisal criteria for headmasters. Headmasters, on the other hand, emphasise the performance of teachers in the classroom, and this is not among the ten most valued performance appraisal criteria for teachers. Although, both headmasters and teachers have school management related appraisal criteria in their preferences, school headmasters put more emphasis on criteria that are related to school management. Another important finding is that school headmasters value teacher cooperation with parents quite highly. However, this can be explained by the parents' freedom to choose a school for their children, and since the budget in Estonian general

educational schools is largely dependent on the number of pupils<sup>75</sup>, then teachers cooperating with parents may be seen as an important marketing tool for the school. On the other hand, as pupil academic performance is seen to be influenced by the family and peers (Rivkin *et al.*, 2005), co-operation with parents may provide important input for raising the quality of the learning process.

**Table 33.** Comparative view of the ten most reasonable teacher performance appraisal criteria in the opinion of headmasters and teachers with respect to the category of the appraisal criteria

	Headmasters		Teachers	
	Mean	Rank No.	Mean	Rank No.
<b>Learning process related criteria</b>				
Teaching-methodological work	4.44	3.	4.03	2.
Teacher performance in the classroom	4.35	7.	-	-
Helping pupils with low academic performance	4.33	8.	3.98	4.
Referring to practice and other subjects	4.31	9.	3.89	7.
Giving feedback to pupils	4.26	10.	3.88	8.
Pupil results in olympiads, exhibitions and competitions	-	-	3.86	9.
Instruction in extra-curricular activities	-	-	3.85	10.
<b>Learning environment related criteria</b>				
Creating motivating and creative LE	4.46	1.	4.04	1.
Communicating and getting along with pupils	4.42	4.	3.39	3.
<b>School management related criteria</b>				
Teacher work discipline	4.45	2.	3.97	5.
Cooperation with parents	4.39	5.	-	-
Cooperation with colleagues	4.37	6.	3.94	6.

Note: The rank number reflects the rank in pedagogues' preferences; LE – learning environment; <sup>1</sup> the categorisation of the criteria is based on the key characteristics of school performance, Figure 6, p. 49

Source: author's calculations

<sup>75</sup> See a discussion about the choice and determination of budget of Estonian general educational schools from subchapter 1.2.1.



The results of the case studies, however, showed the importance of criteria for both the learning process and learning environment. For example, in all three cases studied in Estonian general educational schools, the following criteria were emphasised in appraising teachers' work performance (see Appendix 8): teachers' weekly workload, number of pupils taught, teachers' work with low-performance pupils, work in instructing extra-curricular activities and other work outside the classroom and teachers' work with talented pupils and pupils with special educational needs. In addition to the learning process criteria mentioned here, the case studies showed that current performance appraisal practices in the schools studied also included the following learning environment criteria: the performance of teachers in the classroom (e.g. class observations in School No.1), giving feedback, communicating and getting along with pupils. In addition, all schools emphasised the current important role of pupil feedback in appraising teacher performance, which also indicates the importance of criteria related to the learning environment. However, appraisal criteria linked to school management were not valued much. For example, despite the finding that one school (School No. 2, see Appendix 8) evaluates teacher participation in the development of the school during performance appraisal, teacher participation in school management is rarely appraised as part of the teachers' work performance in the other schools. One teacher from school No 3 even pointed out that teacher participation in school management and developing public relationships should be valued more highly.

The comparative view of preferences held by teachers and headmasters showed that both teacher participation in school management and pupil academic performance were not valued very highly. The results about participation in school management may be due to teachers lacking an understanding of their role in school management because according to the model of the educational process, teachers are primarily responsible for developing both the learning process and environment, and school management is solely the headmaster's responsibility. In turn this may result from the lack of teacher participation in school management, as school headmasters are not so willing to involve teachers in management decisions. That cannot be sustainable in terms of the schools' development.

Even more interesting are the results that indicate that pedagogues do not see pupil academic performance as being a reasonable criterion in appraising teachers' work performance, as this is not influenced by a single teacher but other factors as well. However, it is problematic that although respondents feel that pupil academic performance is not the best criteria, it is still one of the main performance indicators in Estonian general educational schools. It is also worth mentioning that the main school objective is seen as being much broader than simply producing pupils with high academic performance. Their general skills are more valuable for coping in society and in their lives. Therefore, the author agrees with the theoreticians Hanushek (1997), Loeb and Page (2000) and Leithwood and Jantzi (2000), who look at school outcomes more broadly than simply in terms of pupil academic performance. Therefore, academic perfor-

mance indicators are additional but not the main indicators of school performance and should be combined with other performance appraisal criteria (e.g. pupils' further educational career, position in the labour market, coping in life). Certainly, those appraisal criteria have their own shortcomings; for instance, the work of one teacher to further a pupil's educational career and the ultimate outcome is difficult to trace and pupils' further educational career also depends largely on each pupil's personal interest and values. However, combining different performance appraisal criteria makes it possible to obtain a broader picture.

While differentiating (see Appendix 10) performance appraisal criteria on the basis of pedagogues, the results of the Mann-Whitney U-test indicate that compared to school headmasters' evaluations, teachers have statistically significantly higher opinions of one performance appraisal criteria – the number of pupils taught. Teachers also have higher opinions of the criterion “teachers' actual weekly workload”, however, the difference is not statistically significant. Both of these factors are related to additional work completed by teachers, which may mean that teachers feel that their actual work performance is not valued enough.

To conclude, the current picture concurs with the model of the educational process, where a lot of emphasis is put on teachers. On the one hand, this is expected and good because certainly, when assessing the work performance of individual teachers, their effort in creating the learning process and environment most directly reflects this. On the other hand, in terms of balanced school development, teacher participation in school development and management should also be taken into consideration. Although participation in school management was not seen as relevant by many pedagogues, the previous analysis (see subchapter 2.2.1.) also indicated that when teachers' extra effort in participating in school management and development is taken into consideration, pedagogues would see the performance appraisal system as being more fair. Participation in school management and development, on the one hand, is extra work for teachers, but on the other hand, it is very important in the context of school performance. Therefore, it needs extra attention as well.

## **2.3. Research results on remuneration in Estonian general educational schools**

### **2.3.1. Implementation of performance-related pay for teachers and the relationships between pedagogues' opinions in Estonian general educational schools**

The current subchapter concentrates on the results of research conducted in Estonian general educational schools with respect to remuneration and more specifically performance-related pay. Table 34 concludes the descriptive statistics about pedagogues' opinions of the remuneration implemented in their

school. Thus, it is possible to conclude that, despite the fact that pedagogues have very high opinions of performance-related pay both being motivating for teachers and supporting the achievement of school goals, it is still a rather uncommon management tool in Estonian general educational schools. Based on the results of this study, it is only being used in 25.1% of Estonian general educational schools. The results also indicate that instead of rewarding teachers for performance, in more than half (51.3%) of the Estonian general educational schools, teachers are paid according to their workload and occupational level. In the author's opinion this is hazardous because when salary is closely tied to workload teachers are motivated to do overtime which may lead to stressed teachers and a low quality of education. However, before explaining the research results, it is important to note that because performance-related pay is still quite uncommon in Estonian general educational schools, it is important to use the study result with discretion. It is possible that the pedagogues in this study who agreed that performance-related pay is reasonable have not actually weighed all the pros and cons of performance-related pay because they do not sufficiently understand this management tool.

**Table 34.** Opinions of the implementation of a reward system in Estonian general educational schools in total and by respondent type (headmasters vs. teachers)

Claims about teachers' salaries		Frequencies (%)			Mean (SD), N		
		HM	T	Total	HM	T	Total
71: PRP motivating for teachers	Pos	75.2	76.3	<b>70.5</b>	4.17 (0.89) 285	4.21 (1.02) 2,072	<b>4.2 (1)</b> <b>2,357</b>
	Neg	3.3	6.4	<b>5.6</b>			
72: PRP supports goal achievement	Pos	68.8	69.6	<b>64.3</b>	4.03 (0.96) 283	4.01 (1.05) 2,028	<b>4.01 (1.04)</b> <b>2,311</b>
	Neg	5	8	<b>7.1</b>			
73: Salary based on workload and occupational level	Pos	55	55.7	<b>51.3</b>	3.5 (1.52) 284	3.73 (1.34) 1,914	<b>3.7 (1.36)</b> <b>2,198</b>
	Neg	28.6	18.3	<b>18.1</b>			
74: PRP is implemented	Pos	27.9	27.1	<b>25.1</b>	1.66 (0.47) 246	1.66 (0.47) 1,710	<b>1.66 (0.48)</b> <b>1,956</b>
	Neg	54.7	51.9	<b>48.3</b>			
75: Fairness of PRP	Pos	76.7	61.5	<b>63.5</b>	4.05 (0.9) 103	3.64 (1.17) 662	<b>3.7 (1.14)</b> <b>765</b>
	Neg	2.9	14.2	<b>12.7</b>			

Note: The number before the claim refers to its number in the questionnaire (see Appendix 3); PRP – performance-related pay; HM – headmasters; T – teachers; “Pos” – answers rather or totally agree; “Neg” – answers rather or totally not agree; The answers “hard to evaluate, do not really know” are not presented in this table; statistics about the total are in boldface; A 5-point scale has been used

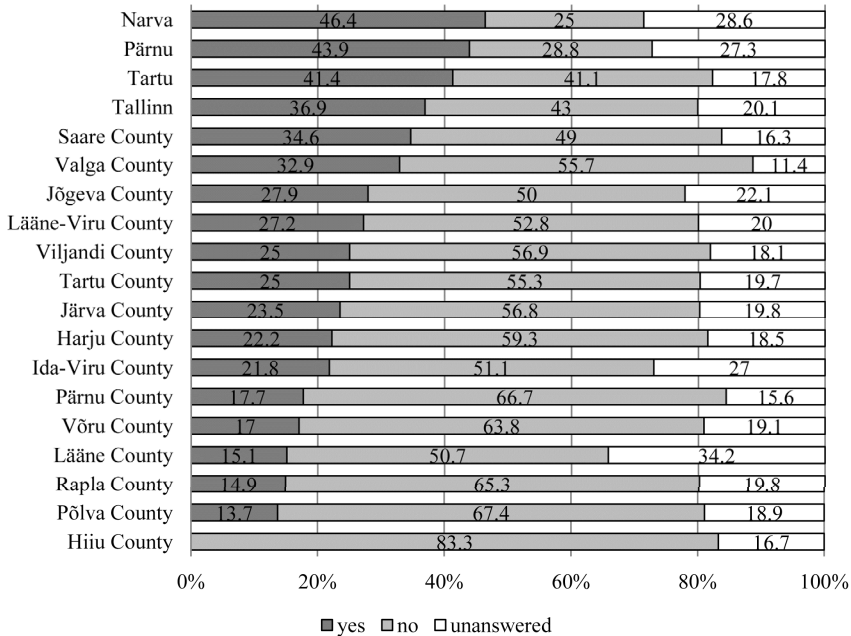
Source: author's calculations

There is another aspect as well that may distort the research results. As identified in the discussion in the theoretical section<sup>76</sup>, teachers in Estonia have extremely low salaries, and this raises their expectations of a salary increase. However, combining the lack of knowledge about performance-related pay and this high expectations of an increase in their salary, the opinions of performance-related pay being motivating for teachers may be overestimated. However, as several authors have indicated (Burgess *et al.*, 2001; Armstrong, 2001; Lazear, 2001, 2003; Chamberlin *et al.*, 2004; Milanowski, 2007), performance-related pay is implemented for two main reasons: 1) motivating teachers; 2) increasing school performance. The results presented in Table 34 show that the objective of implementing performance-related pay may be primarily related to the idea that it motivates teachers. The results of the Wilcoxon Signed Rank Sum test confirm that pedagogues' opinions of performance-related pay being motivating for teachers are statistically significantly higher compared to pedagogues' opinions about performance-related pay supporting the achievement of school objectives (Wilcoxon Signed Rank Sum test results: Z-test value -12.95, p-value 0.00). However, both headmasters (Z-test value -2.86, p-value 0.00) and teachers (Z-test value -12.72, p-value 0.00) see performance-related pay rather as a tool for motivating teachers than achieving better school performance. Certainly, this result may be explained by the demotivating low salary level in Estonian general educational schools because a salary that is too low may hamper the satisfaction of lower needs which in the end may impede teacher self-actualisation (Ramlall, 2004).

Performance-related pay is most frequently executed in the four larger cities in Estonia – Narva, Pärnu, Tartu and Tallinn (see Figure 20). In addition, based on the Kruskal-Wallis test, it is possible to conclude that staff in Estonian general educational schools that are located in the 4 largest Estonian cities – Tallinn, Tartu, Narva and Pärnu – have more positive opinions towards performance-related pay motivating teachers (mean 4.27, SD 0.98, Chi-Square 7.73, p-value 0.02). This may be explained by the fact that schools already implementing performance-related pay have more favourable opinions towards this as a management tool.

---

<sup>76</sup> See a more detailed discussion about labour force and salary of teachers from subchapter 1.2.3.



**Figure 20.** The implementation of performance-related pay in Estonian general educational schools based on the research in this dissertation with respect to counties (%)  
Source: author’s calculations

In addition, the pedagogues were asked to specify why performance-related pay had not been taken into use in their school. One of the most frequent answers to this question based on the case studies is that school budgets are too restricted and the financial resources required to reward teachers on the basis of their performance (see Appendix 8) do not exist. Headmasters from all three case study schools noted that restricted school budgets is the main reason why performance-related pay is either implemented modestly or not implemented at all. For example, the school headmaster from one school (school No. 1) stated that although they try to reward teachers on the basis of performance, this activity is not systematic because only 3% of the teachers’ salary fund can be used for performance-related pay. The headmaster from the second school (school No. 2) indicated that performance-related pay is implemented as much as the school budget allows. Therefore, only one-off incentives are offered. The headmaster from the third school (School No.3), however, admitted that because of the lack of resources, teachers are hardly ever rewarded for performance. Some differences emerge when comparing teachers’ answers and headmasters’ answers. While headmasters point out that the lack of monetary resources is an important restriction in rewarding teachers on the basis of performance, teachers emphasise the difficulties in selecting performance-related pay criteria and evaluating their performance. In addition, the issue that teachers might not be motivated by monetary resources after all is pointed out as well. Therefore, teachers have

broader fears about implementing performance-related pay compared to headmasters.

The statistics in Table 34 (p. 147) show that despite the very high opinions of performance-related pay, the fairness of its implementation in the schools studied is valued slightly lower. Nevertheless, 61.5% of teachers think that performance-related pay used to reward their performance is fair. Problems with the fairness of the teacher performance appraisal system were witnessed in the previous subchapter as well (see subchapter 2.2.1). In order to analyse whether the negative opinions about performance-related pay may stem from dissatisfaction with the teacher performance appraisal system implemented in Estonian general educational schools, the claims that have resulted in more negative opinions about both the performance appraisal and performance-related pay are compared (see Table 35).

The author initially compared pedagogues' opinions about whether teacher performance appraisal has an influence on teaching performance with the claim that performance-related pay supports the achievement of school objectives. This was followed by comparing pedagogues' opinion of the fairness of performance appraisal and performance-related pay. The results show that pedagogues believe less that performance appraisal has an influence on teachers work compared to their opinions about performance-related pay supporting the achievement of school objectives. This result is a little worrying because a reward system implies the use of an evaluation system, which makes it possible to assess the performance of these activities. When comparing the opinions of the fairness of the performance appraisal and performance-related pay implemented in Estonian general educational schools, the results indicate that the fairness of the teacher performance appraisal system and performance-related pay is perceived equally.

**Table 35.** Comparative view of pedagogues' opinions of teacher performance appraisal and performance-related pay

	<b>Claim</b>	<b>Statistics</b>	
<b>a)</b>	PA has an influence on teachers' work performance	Mean (SD) N	3.53 (1.03) 2,327
	PRP supports the achievement of school goals	Mean (SD) N	4.01 (1.04) 2,311
	<b>Wilcoxon signed rank sum test results</b>	Z-test value	-16.82*
<b>b)</b>	PA system implemented in our school makes it possible to appraisal the performance of teachers fairly	Mean (SD) N	3.61 (0.97) 2,236
	PRP implemented in our school is fair	Mean (SD) N	3.7 (1.14) 765
	<b>Wilcoxon signed rank sum test results</b>	Z-test valus	-0.46

Note: \* significant difference between groups at 0.05 level; 5-point scale; SD – standard deviation; PA – performance appraisal; PRP – performance-related pay; N – sample size

Source: author's calculations

However, the analysis of the implementation of performance appraisal and performance-related pay in Estonian general educational schools reflected that the evaluations of performance-related pay are slightly higher than the evaluations of performance appraisal. That may be due to negative opinions towards performance appraisal, as people do not like to be controlled, or also due to bad practices having been implemented in Estonian schools. However, as the design of teacher performance appraisal is related to developing teacher remuneration (see Figure 13, p. 82), then any dissatisfaction about the performance appraisal system may create negative opinions towards performance-related pay as well. The results (see Table 36) indicated that although there are statistically significant relationships between performance appraisal and performance-related pay, the results are rather weak or moderate, meaning that the pedagogues do not emphasise the link between teacher performance appraisal and performance-related pay. Therefore, the study provided only partial evidence about the success of performance-related pay being dependent on the teacher performance appraisal system, and opinions towards performance pay depending heavily on the validity and reliability of the criteria used to assess performance (Chang and Hahn, 2006; Ingvarson, 2007). The results indicate higher correlations only in the case of school headmasters. Therefore, in the case of headmasters it is possible to conclude that they see an important link between assessing teachers' performance and performance-related pay. For example, when performance appraisal is arranged systematically and its principles are well understood, performance-related pay is seen as being more motivating for teachers. The result indicates that school headmasters acknowledge the importance of a fair and well organised teacher performance appraisal system in order to develop fair and accepted performance-related pay.

**Table 36.** Correlations between performance appraisal and performance-related pay claims (with respect to headmasters and teachers)

Performance appraisal	PRP motivates		PRP supports achievement of school goals	
	$\rho$	N	$\rho$	N
<b>Teachers</b>				
42: Systematic	0.06**	1,976	0.11**	1,939
43: PA principles are well understood	0.05*	1,987	0.1**	1,949
44: Teachers are involved	0.03	1,944	0.11**	1,908
45: PA has an influence on teachers' work performance	0.13**	1,965	0.17**	1,923
46: Fairness of PA	0.07**	1,887	0.12**	1,855
48: Sufficient feedback	0.03	2,027	0.05*	1,982

	PRP motivates		PRP supports achievement of school goals	
	$\rho$	N	$\rho$	N
<b>Headmasters</b>				
42: Systematic	0.26**	280	0.25**	277
43: PA principles are well understood	0.23**	278	0.17**	276
44: Teachers are involved	0.22**	277	0.17**	275
45: PA has an influence on teachers' work performance	0.2**	277	0.2**	277
46: Fairness of PA	0.21**	271	0.25**	268
48: Sufficient feedback	0.19**	277	0.18**	277

Note: The number before the claim refers to its number in the questionnaire (see Appendix 3); Spearman correlation;  $\rho$  – correlation coefficient; \*correlation is significant at 0.05 level; \*\*correlation significant at 0.01 level; N – sample size; PRP – performance-related pay  
Source: author's calculations

The explanation of the low correlations concerning teachers, on the one hand, may be that teachers are less aware of performance management as a management tool, which explains how performance appraisal and performance-related pay are related to each other. On the other hand, because of the low salary level, teachers may have high expectations of performance-related pay, and therefore, the problems of performance appraisal are not recognised in that light. However, this is a very hazardous situation because a good reward system implies that the school has developed a fair and reliable system for assessing teachers' work performance (Thorpe and Homan, 2000). However, as still some relationships exist, the author emphasises that the problems concerning the appraisal system in schools should be eliminated before implementing performance-related pay.

In addition to the influence of the teacher performance appraisal system, as the development of performance-related pay is related to several characteristics of school management (see also Figure 13, p. 82), the following discussion concentrates on the relationships between characteristics of school management (strategic management, resource management and organisational culture) and pedagogues' opinions of the performance-related pay implemented in their school. As both the fairness and character of performance-related pay in supporting the achievement of school objectives were viewed more critically on the part of the pedagogues, then the following analysis concentrates on those two factors.

The correlation analysis of the characteristics of strategic management and the performance-related pay implemented in Estonian general educational schools implies the importance of strategic management in developing



performance-related pay (see Table 37). However, those characteristics primarily influence pedagogues' perceptions about the fairness of performance-related pay because in these cases the correlations are rather strong (marked in boldface).

**Table 37.** Correlations between the characteristics of strategic management of schools and pedagogues' opinions about the performance-related pay implemented in their school

Strategic management characteristics	PRP supports achieving school objectives		PRP implemented in school is fair	
	$\rho$	N	$\rho$	N
1: Defined its vision and mission	0.09**	850	0.2**	281
2: School performance indicators are defined in development plan	0.05	279	0.14	102
6: Teachers understand their role in school development plan	0.13**	2,274	0.22**	752
7: Development plan has been introduced to interest groups	0.09**	2,252	0.21**	751
8: Trends in society are considered when planning activities	0.07**	2,276	0.26**	753
9: Changes are based on the analysis of previous activities	0.12**	2,264	<b>0.32**</b>	753
10: Pupil and parent feedback is involved (satisfaction inquiries)	0.1**	2,206	0.26**	734
11: Teachers are involved in designing action plan	0.09**	2,172	<b>0.35**</b>	719

Note: The number before the claim refers to its number in the questionnaire (see Appendix 3); Spearman correlation;  $\rho$  – correlation coefficient; \*\*correlation significant at 0.01 level; Correlation coefficients higher than 0.3 are in boldface<sup>77</sup>; N – sample size; PRP – performance-related pay appraisal

Source: author's calculations

It seems to matter that schools are making changes based on the analysis of previous activities and teachers are involved in the creation of action plans whether performance-related pay is perceived as being fair or not (see Table 38).

<sup>77</sup> In some social sciences situations (e.g. where the measures are based on 5-point Likert scales), a correlation of 0.3 might be regarded as relatively strong and a correlation of 0.5 as very strong (De Vaus, 2002).

**Table 38.** Pedagogues’ opinions of the fairness of the performance-related pay implemented in their school with respect to making school changes based on analysis and involving teachers in designing action plans

Claim		PRP implemented in school is fair		Mann-Whitney U-test results
		Mean (SD)	N	Z-test value
Changes are based on the analysis of previous activities	Pos.	3.82 (1.07)	666	-5.43*
	Neg.	2.11 (1.15)	19	
Teachers are involved in designing action plans	Pos.	3.91 (1.06)	557	-7.56*
	Neg.	2.34 (1.13)	41	

Note: \* significant difference between groups at 0.05 level; 5-point scale; SD- standard deviation; N- sample size; PRP – performance-related pay; “Pos.” – answers rather or totally agree; “Neg.” – answers rather or totally not agree; The answers “hard to evaluate, do not really know” are not presented in this table

Source: compiled by the author

The additional statistical analysis indicates that in schools where plans are based on the analysis of the past and where teachers participate in compiling action plans, the opinions of the fairness of performance-related pay is statistically significantly higher. Thus, the results indicate the importance of analysing the internal context of the school. Certainly, analysing the previous activities of the school and the influence of these activities on school performance is relevant in designing performance-related pay, as it is necessary to analyse whether the reward system implemented has induced greater effort from teachers or not. Similarly, analysing previous activities is essential, as effort from teachers is rewarded based on past performance (Hanley and Nguyen, 2005; Marsden and Belfield, 2006; Neal, 2011). In addition, the results reflect the importance of teacher involvement in strategic planning. As in the findings pointed out previously about the teacher performance appraisal system (see subchapter 2.2.1), the results indicate teacher involvement in composing action plans helps them understand what activities teachers are expected to fulfil, and therefore, they are more targeted towards achieving set objectives. Therefore, as action plans emphasise the key activities that are also taken as the basis for rewarding teachers on the basis of performance, teachers also understand how salary is differentiated. They have a clear overview of what constitutes school success as well as their individual professional success. When teachers understand how their salary is formulated then the performance-related pay system is more likely to be seen as fair.

The correlations between school resource management and performance-related pay reflect the importance of well organised resource management in rewarding teachers on the basis of their performance (see Table 39).

**Table 39.** Correlations between characteristics of school resource management and pedagogues’ opinions about the performance-related pay implemented in their school

Resource management characteristics	PRP supports achieving school objectives		PRP implemented in school is fair	
	$\rho$	N	$\rho$	N
26: Resources are used according to development plan and budget	0.07**	1,923	<b>0.3**</b>	670
27.3: Teachers are involved in school budget design	0.04	2,298	0.25**	761
28: Enough monetary resources to execute development plan	0.05*	2,013	0.18**	679
32: School struggles to pay costs at the end of the year	0.02	1,774	-0.12*	618
34: School monetary resources are used effectively	0.07**	1,964	<b>0.39**</b>	674
39: The need for human resources is analysed regularly	0.09**	1,975	<b>0.32**</b>	673

Note: The number before the claim refers to its number in the questionnaire (see Appendix 3); Spearman correlation;  $\rho$  – correlation coefficient; \*correlation is significant at 0.05 level; \*\*correlation significant at 0.01 level; Correlation coefficients higher than 0.3 are in boldface; N – sample size; PRP – performance-related pay  
Source: author’s calculations

Although the correlations between resource management characteristics and pedagogues’ opinions about performance-related pay supporting school objectives are statistically significant, they are weak, meaning that pedagogues do not emphasise the role of resource management in supporting school objectives as much as they emphasise its role in creating fair performance-related pay. However, as emphasised in the theoretical section of this dissertation, resource allocation plays an important role in performance-related pay because monetary incentives should be offered in order to motivate teachers to achieve the key activities that constitute success for the organisation, and performances that exceed standards should be rewarded (Cutler and Waine, 1999; Wyman and Allen, 2001; Performance-Pay for Teachers..., 2007; Türk, 2008). Therefore, the finding that resource allocation does not seem to matter in achieving schools’ objectives is problematic. In the author’s opinion, concentrating on rewarding the activities that matter in order to raise school performance should be more emphasised than just rewarding teachers on the basis of what they see as being fair. For example, when teachers put a lot of effort into raising pupil results in national examinations, they expect to be rewarded for this effort as well. However, if raising pupil national examination results is not seen as a critical activity in improving overall school performance, teachers should not be offered extra

reward just because they expect it. On the contrary, rewarding only those activities that matter most helps headmasters to turn the attention of the teachers towards achieving the schools' strategic objectives. The analysis of the pedagogues' opinions of the fairness of performance-related pay and characteristics of resource management are presented in Table 40.

**Table 40.** Pedagogues' opinions of the fairness of the performance-related pay implemented in their schools with respect to characteristics of resource management

Claim		PRP implemented in school is fair		Mann-Whitney U-test results
		Mean (SD)	N	Z-test value
Resources are used according to development plan and budget	Pos.	3.85 (1.08)	567	-3.29*
	Neg.	2.88 (1.2)	16	
School monetary resources are used effectively	Pos.	3.94 (1.04)	518	-6.51*
	Neg.	2.54 (1.15)	35	
The need for human resources is analysed regularly	Pos.	3.88 (1.08)	525	-5.52*
	Neg.	2.63 (1.08)	27	

Note: \* significant difference between groups at 0.05 level; 5-point scale; SD – standard deviation; N – sample size; PRP – performance-related pay; “Pos.” – answers rather or totally agree; “Neg.” – answers rather or totally not agree; the answers “hard to evaluate, do not really know” are not presented in this table

Source: compiled by the author

In order to create a fair performance-related pay system, school resources are expected to be used according to the development plan and budget, and similarly, the higher the opinions of the effectiveness of the use of monetary resources, the more positive the opinions of the performance-related pay implemented in schools. In addition, when schools analyse their human resources regularly, the performance-related pay implemented in schools is more likely to be seen as fair. Although the previous findings showed that the characteristics of resource management mattered more in encouraging positive opinions about performance-related pay being fair, the more specific analysis (Mann-Whitney U-test) about the characteristics that help formulate pedagogues' opinions about the fairness of performance-related pay indicates that whether the performance appraisal system is in accord with school strategic plans is seen as an important determinant of the fairness of performance-related pay. However, the additional correlation analysis conducted on the basis of respondent groups showed (see Table 41) an important correlation exists between the perceived fairness of performance-related pay and whether the resources are allocated based on the school development plan and budget, whether the need for human resources is analysed regularly and whether monetary resources are allocated effectively for both headmasters and teachers. Therefore, allocating resources according to the

school objectives is an important aspect in creating fair and accepted performance-related pay.

**Table 41.** Correlations between characteristics of resource management and the perceived fairness of performance-related pay implemented in schools with respect to the respondents (headmasters vs. teachers)

Resource management characteristics	PRP implemented in school is fair			
	Headmasters		Teachers	
	$\rho$	N	$\rho$	N
26: School resources are used according to the development plan and budget	0.25**	103	<b>0.31**</b>	567
34: School monetary resources are used effectively	<b>0.32**</b>	100	<b>0.39**</b>	574
39: The need for human resources is analysed regularly	<b>0.34**</b>	100	<b>0.31**</b>	573

Note: The number before the claim refers to its number in the questionnaire (see Appendix 3); Spearman correlation;  $\rho$  – correlation coefficient; \*\*correlation significant at 0.01 level; correlation coefficients higher than 0.3 are in boldface; N – sample size; PRP – performance-related pay  
Source: author’s calculations

In addition, when talking about the effective usage of monetary resources and the influence this has on the fairness of performance-related pay, the theory implies that differentiating teachers’ salaries (rewarding them by performance) instead of raising their overall salary level is certainly more cost effective (Chamberlin *et al.*, 2004). Therefore, selecting the right reward system for the school may influence pedagogues’ opinions about the effective allocation of monetary resources.

Similarly, as with creating a fair teacher performance appraisal system, teacher involvement in budget design and the school’s ability to pay its costs at the end of the year did not affect the formulation of opinions of performance-related pay. The analysis of the open-ended questions showed that the headmasters’ power to manage resources varies enormously in the schools studied because the local authorities often dictate school budgets, costs, teacher salaries and workload. Both headmasters and teachers mentioned that school development and the use of new management methods are restricted by the lack of financial resources. This finding is in accord with the framework of the Estonian education system, which can be characterised by local empowerment<sup>78</sup>. As local empowerment refers to the transfer of responsibility to an intermediate authority between central (or state) governments and schools, local authorities

<sup>78</sup> See a more detailed discussion about the changes taking place in the education sector that necessitate the implementation of new management tools in subchapter 1.2.1.

are participating actively in the strategic management of schools. Therefore, it is understandable that school budgets are rather seen as restrictions on school performance. Although the answers to the open-ended questions and case studies referred to the lack of monetary resources being an important reason for not rewarding teachers in the basis of performance, concern about whether schools have enough monetary resources to execute their development plans had statistically significant, albeit weak, relationships to pedagogues' opinions about performance-related pay. The implication of this finding may be that it is not the lack of monetary resources that is important here, but the inability to manage them according to the strategic aims of the schools.

Thirdly, correlations between the characteristics of organisational culture and pedagogues' opinions of the performance-related pay implemented in their school shows statistically significant, albeit not very strong, relationships between organisational culture and pedagogues' opinions about performance-related pay supporting the achievement of school objectives (see Table 42). However, there are several characteristics that have relatively strong relationships to pedagogues' opinions about the fairness of the performance-related pay implemented in their school. The explanation of organisational culture positively influencing opinions towards performance-related pay is logical and matches the results of several studies (Kelly *et al.*, 2008; Hanley and Nguyen, 2005; Delaney and Huselid, 1996; Becker and Gerhart, 1996; Schneider, 2000; Harris *et al.*, 2003) in light of the fact that good organisational culture and good relationships with the headmaster leads to more committed and satisfied employees.

**Table 42.** Correlations between characteristics of the school's organisational culture and pedagogues' opinions about the performance-related pay implemented in their school

Organisational culture characteristics	PRP supports achieving school objectives		PRP implemented in school is fair	
	$\rho$	N	$\rho$	N
12.1: Headmaster involves teachers in school development and management	0.06**	2,274	<b>0.39**</b>	752
14: Communicating with the headmaster is easy	0.06**	2,295	<b>0.37**</b>	758
15: Teachers follow ethical norms and principles	0.06**	2,271	0.22**	753
16: Headmaster follows ethical norms and principles	0.05*	2,264	<b>0.35**</b>	742
19: School keeps in touch with alumni	0.09**	2,18	0.21**	737
20: Teachers are active in public life of the community	0.07**	2,226	0.17**	740

Organisational culture characteristics	PRP supports achieving school objectives		PRP implemented in school is fair	
	$\rho$	N	$\rho$	N
21: School values international, national, regional and local achievements by teachers	0.06**	2,265	<b>0.38**</b>	755

Note: The number before the claim refers to its number in the questionnaire (see Appendix 3); Spearman correlation;  $\rho$  – correlation coefficient; \*\*correlation significant at 0.01 level; Correlation coefficients higher than 0.3 are in boldface; N – sample size; PRP – performance-related pay  
Source: author’s calculations

To be more specific (see Table 43), the study shows the importance of encouraging teachers – valuing their achievement and involving them in school management and development. This kind of behaviour generates a performance-oriented atmosphere, which is necessary for implementing performance-related pay in the first place (Lancer Julnes and Holzner, 2001). Involvement is crucial because involving teachers increases employee commitment and satisfaction, which reduces resistance to change. Solving does not mean dictating, but learning together through discussion, negotiation and agreement (Mattila and Aaltio, 2006). Similarly, as found for teacher performance appraisal, in order to create fair performance-related pay, headmasters should turn a lot of attention to their ethical behaviour and developing communication between teachers.

**Table 43.** Pedagogues’ opinions of the fairness of the performance-related pay implemented in their schools with respect to characteristics of organisational culture

Claim		PRP implemented in school is fair		Mann-Whitney U-test results
		Mean (SD)	N	Z-test value
Headmaster involves teachers in school development and management	Pos.	3.88 (1.06)	603	-7.59*
	Neg.	2.31 (1.06)	39	
Communicating with the headmaster is easy	Pos.	3.84 (1.06)	649	-5.84*
	Neg.	2.34 (1.32)	29	
Headmaster follows ethical norms and principles	Pos.	3.8 (1.08)	672	-4.01*
	Neg.	2.47 (1.25)	15	
School values international, national, regional and local achievements by teachers	Pos.	3.86 (1.05)	650	-6.21*
	Neg.	2.17 (1.13)	24	

Note: \* significant difference between groups at 0.05 level; 5-point scale; SD – standard deviation; N – sample size; PRP – performance-related pay; “Pos.” – answers rather or totally agree; “Neg.” – answers rather or totally not agree; the answers “hard to evaluate, do not really know” are not presented in this table

Source: compiled by the author

Therefore, the Estonian study provided empirical evidence about the crucial role of school management in performance-related pay design. Strategic management is essential as it provides the necessary framework and information for performance-related pay design and allows teachers to understand their role within the organisation, and therefore, also directs them to work towards the most important strategic aims of the school. Resource management matters as it supports the achievement of school objectives in terms of allocating monetary resources to the most important activities and rewards for good performance in achieving the goals. Finally, organisational culture creates the necessary mentality for achieving important tasks and is a supportive tool in making the change happen within schools.

However, the positive influence of those characteristics of school management on pedagogues' opinions about performance-related pay was also found using other methods of statistical analysis<sup>79</sup>. The regression analysis, where opinions about performance-related pay was used as a dependent variable and factors of the characteristics of school management were independent variables<sup>80</sup>, indicated positive and statistically significant relationships between strategic management ( $\beta = -0.15^{81}$ ), organisational culture ( $\beta = -0.13$ ) and pedagogues' opinions about performance-related pay motivating teachers. Therefore, the regression analysis provided additional evidence about the importance of good communication, headmasters following ethical norms, involving teachers' opinions and proposals in school development and management and valuing teachers' achievements as characteristics of organisational culture, and introducing the implementation of the school development plan to different interest groups, making summaries of the implementation of the school development plan, informing teachers of their role in implementing the school development plan as characteristics of strategic management. However, those results need to be treated with caution because the descriptive level of this model is relatively low (Adjusted R Square 0.07).

In education, teachers are rewarded on the basis of performance in order to enhance school performance and retain good teachers. In this study, performance indicators related to pupil academic performance and a school's ability to attract teachers are compared between schools that reward teachers on the basis of performance and schools that do not. As school objectives are often measured using school performance indicators related to pupil academic

---

<sup>79</sup> The other statistical methods for exploring the relationships between school management and pedagogues' opinions about the teachers' performance-related pay implemented in their school were performed during the project „Performance and analysis of its influencing drivers in general educational schools”. The specific results of the factor analysis and regression analysis are discussed in the project report on pages 182–184, (Türk *et al.*, 2011)

<sup>80</sup> See the description about this measurement tool in subchapter 2.1.2, p. 108–109.

<sup>81</sup> The dependent value is transformed using square root transformation. As the variables are negatively skewed, a reflection is computed (the direction of all of the relationships are reverse).



performance (Eberts *et al.*, 2002; Griffith, 2004; Cavalluzzo, 2004; Rivkin *et al.*, 2005; Figlio and Kenny, 2007; Kingdon and Teal, 2007; Holmlund and Sund, 2008; Atkinson *et al.*, 2009), the author implements additional statistical analysis (graphical analysis, Independent Samples t-test and correlation analysis) to find empirical evidence of the relationships between the implementation of performance-related pay and pupil academic performance. The results of the Independent Samples T-test indicate (see Table 44) higher results in performance indicators that evaluate pupil academic performance in schools that reward teachers on the basis of performance. For example, primary schools that implement performance-related pay have higher average final examination results and a higher percentage of pupils continuing studies at the next school level. Secondary schools also have higher average national examination results and percentages of pupils continuing studies at university in state-funded student places. Despite the results of the Independent Samples t-test which show statistically significantly higher pupil academic performance in schools that reward teachers on the basis of performance, the differences are not remarkable.

**Table 44.** School performance indicators valuing pupil academic performance with respect to Estonian general educational schools implementing performance-related pay

School performance indicators <sup>1</sup>	Statistics	Implementation of PRP		Independent Samples T-test
		Yes	No	t-test value
<b>Primary schools</b>				
Average results in final exams	Mean (SD) N	4.31 (0.36) 465	4.26 (0.39) 865	2.2*
% of pupils continuing at the next school level	Mean (SD) N	96.89 (4.34) 624	95.63 (7.5) 1203	4.56*
<b>Secondary schools</b>				
Average results in national examinations	Mean (SD) N	63.11 (8.77) 444	59.24 (6.75) 639	7.85*
% of pupils continuing at university in a state-funded student place	Mean (SD) N	17.49(18.61) 444	10.07 (9.82) 645	7.7*

Note: \* significant difference between groups at 0.05 level; 5-point scale; SD – standard deviation; N – sample size; <sup>1</sup>The data about the school performance indicators studied during this dissertation is gathered from the Estonian Information System on Education (EHIS – Eesti Hariduse Infosüsteem, [www.etis.ee](http://www.etis.ee))

Source: author's calculations

The results of the correlation analysis (see Table 45) reflect statistically significant relationships between the implementation of performance-related pay and

pupil academic performance. However, it is worth mentioning that these relationships are not strong.

**Table 45.** Correlations between the implementation of performance-related pay and pupil academic performance

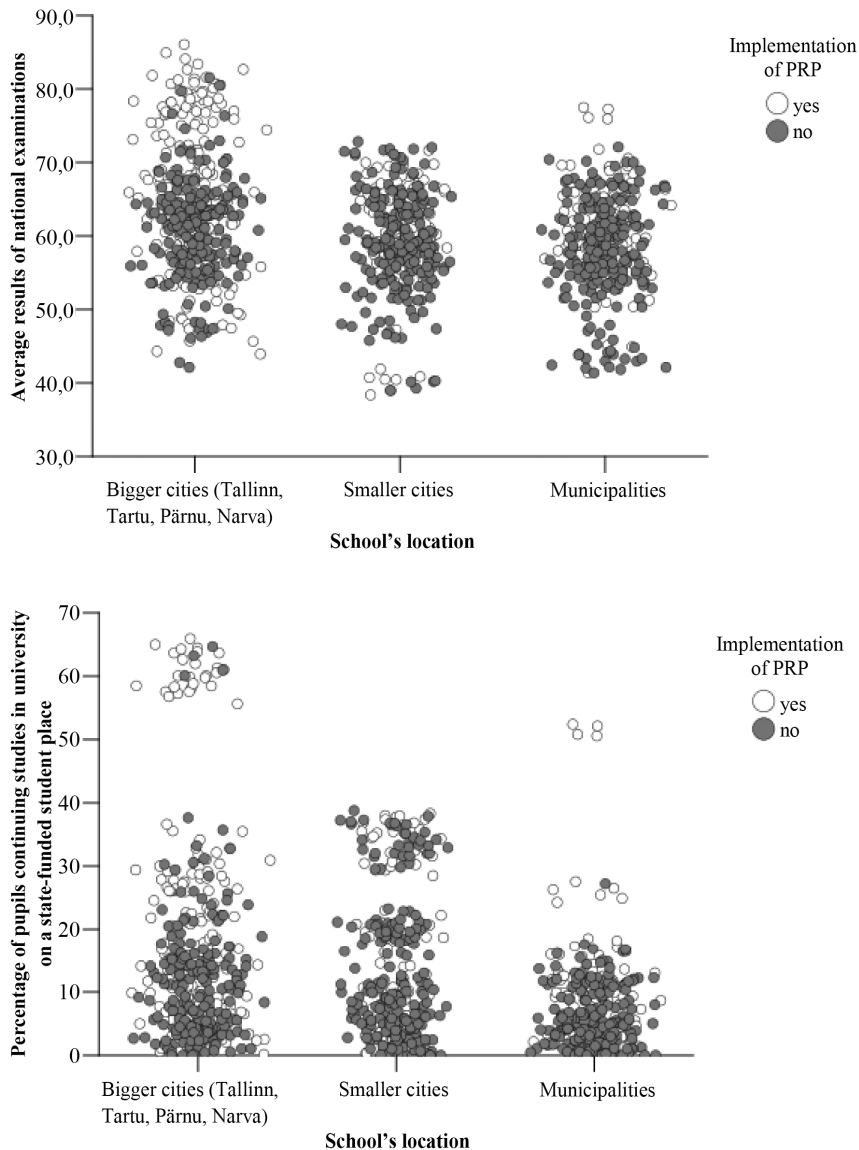
Primary school	Implementation of PRP	
	$\rho$	N
Average results in final exams	0.06*	1,330
% of pupils continuing studies at the next school level	0.09**	1,827
Secondary school	Implementation of PRP	
	$\rho$	N
Average results of national examinations	0.24**	1,083
% of pupils continuing studies at university in a state-funded student place	0.25**	1,089

Note: Spearman correlation;  $\rho$  - correlation coefficient; \* correlation significant at 0.05 level; \*\*correlation significant at 0.01 level; N – sample size; PRP – performance-related pay

Source: author's calculations

The strongest relationships may be found between the implementation of performance-related pay and the average results in national examinations ( $\rho = 0.24$ ) and the percentage of pupils continuing studies at university in a state-funded student place ( $\rho = 0.25$ ) in secondary schools. Therefore, the author performed a graphical analysis based on the data from secondary schools in Estonia for those two performance indicators. The results are presented in Figure 21.

Based on these graphs, it is possible to conclude that some relationships between the implementation of performance-related pay and average national examination results and some relationships between the implementation of performance-related pay and the percentage of pupils continuing studies at university in a state-funded student place may be found based on secondary schools located in the larger cities (Tallinn, Tartu, Pärnu and Narva). In secondary schools that are located in the larger cities, the schools that implement performance-related pay experience higher average national examination results (over 70 points) and a higher percentage of pupils continuing studies at university in state-funded student places (60–70%).



**Figure 21.** Graphical analysis about the relationships between the implementation of performance-related pay and pupil academic performance (average national examination results and the percentage of pupils continuing studies at university in a state-funded student place)  
 Source: author's calculations

Secondly, when comparing schools that implement performance-related pay with schools that do not, the results indicate (see Table 46) that in the case of both primary and secondary schools, schools that implement performance-

related pay are better placed in terms of having teachers with the required qualifications.

**Table 46.** The presence of teachers with the required qualifications with respect to Estonian general educational schools that do and do not implement performance-related pay

School performance indicators <sup>1</sup>	Statistics	Implementation of PRP		Independent Samples T-test
		Yes	No	t-test value
<b>Primary schools</b>				
Presence of teachers with required qualifications	Mean (SD) N	89.72 (9.83) 632	85.57 (14.7) 1221	<b>7.22*</b>
<b>Secondary schools</b>				
Presence of teachers with required qualifications	Mean (SD) N	92.66 (7.78) 444	90.85 (9.48) 644	<b>3.46*</b>

Note: \* significant difference between groups at 0.05 level; 5-point scale; SD – standard deviation; N – sample size; <sup>1</sup>The data about the school performance indicators studied during this dissertation is gathered from the Estonian Information System on Education (EHIS – Eesti Hariduse Infosüsteem, www.etis.ee)

Source: author’s calculations

Despite the results of the Independent Samples t-test, which shows statistically significant differences, the result of the correlation analysis indicate significant, albeit weak, relationships between implementing performance-related pay and the presence of teachers with the required qualifications (see Table 47).

**Table 47.** Correlations between the implementation of performance-related pay and the presence of teachers with the required qualifications based on Estonian general educational schools

	Implementation of PRP	
	$\rho$	N
Presence of teachers with required qualifications in PS	0.15**	1,853
Presence of teachers with required qualifications in SS	0.1**	1,088

Note: Spearman correlation;  $\rho$ - correlation coefficient; \*\*correlation significant at 0.01 level; N – sample size; PRP – performance-related pay; PS – primary schools; SS – secondary schools

Source: author’s calculations

It is worth mentioning that although the previous analysis made it possible to compare school performance indicators that have different rewarding strategies, the results do not make it possible to conclude whether performance-related pay

would also lead to higher school performance and attract more teachers. The relationships between teacher incentives and pupil performance could also be due to better schools adopting teacher incentives or teacher incentives eliciting more effort from teachers. Similarly, one cannot be sure whether the positive relationship between teacher individual pay and pupil performance is due to the incentives themselves or to unobserved school quality (Figlio and Kenny, 2007).

Based on the findings of this subchapter, it is possible to conclude that despite the empirical evidence that Estonian schools have positive opinions towards paying teachers based on their performance, this result may only be due to teachers being rewarded rather moderately in Estonia. The relationships between the implementation of performance-related pay and school performance indicators was only more powerful in the case of schools located in larger cities. Therefore, this may not be due to the suitability of performance-related pay in rewarding teachers, but the existence of demotivatingly low salaries. Similarly, it is worth mentioning that although there are primarily positive views about performance-related pay, there are still many respondents who do not believe that implementing performance-related pay in their school would result in something good. For example, some respondents in this study pointed out that performance-related pay would result in increased competition between teachers, which would have a negative influence on the school's micro-climate.

### 2.3.2. The current use of and pedagogues' preferences in selecting performance-related pay criteria

During the design and implementation of performance-related pay, the characteristics of teachers' activities become particularly relevant because they are most directly linked to creating teachers' individual pay, and therefore, the criteria for a teacher performance-related pay scheme should most likely be selected from among those activities. Therefore, further analysis concentrates on finding the relationships between the learning process, environment and pedagogues' opinions about the performance-related pay implemented in their school. The results presented in Table 48 reflect statistically significant, albeit weak or moderate, relationships between characteristics of the learning process and pedagogues' opinions about performance-related pay implemented in schools.

**Table 48.** Correlations between the characteristics of the learning process and pedagogues' opinions about the performance-related

Learning process characteristics	PRP supports achieving school objectives		PRP implemented in school is fair	
	$\rho$	N	$\rho$	N
87: In our school pupils learn things	0.13**	2,285	0.26**	756

Learning process characteristics	PRP supports achieving school objectives		PRP implemented in school is fair	
	$\rho$	N	$\rho$	N
necessary for life				
89: Pupils are being taught based on their individual abilities	0.11**	2,283	0.27**	752
90: The support systems are developed based on the pupils' needs	0.09**	2,259	0.26**	745
91: School deals with developing pupil interests and talents	0.14**	2,27	0.25**	749
93: Pupils' academic performance is analysed systematically	0.15**	2,233	0.29**	740
94: Pupils' development in general skills is analysed systematically	0.11**	2,182	0.25**	732
98: School supports pupil participation in olympiads, competitions etc.	0.14**	2,268	0.28**	753
99: Teachers use modern teaching methods (incl. IT)	0.12**	2,247	0.24**	745

Note: The number before the claim refers to its number in the questionnaire (see Appendix 3); Spearman correlation;  $\rho$  – correlation coefficient; \*\*correlation significant at 0.01 level; N – sample size; PRP – performance-related pay  
Source: author's calculations

That is somewhat surprising as the performance-related pay criteria are primarily linked to teachers' activities in the learning process. However, for the same reason, according to expectations the correlations between pedagogues' opinion about the fairness of performance-related pay and learning process characteristics are stronger. The study showed that in schools where pupil academic performance is analysed systematically, and where pupil participation in olympiads is valued, performance-related pay is seen as fairer. In those cases the values of the correlation coefficients are near to 0.3, which is counted as relatively strong. On the one hand, this result may reflect that teachers are rewarded based on pupil academic performance and pupil performance in olympiads and competitions in Estonian general educational schools (see Table 49). On the other hand, this may reflect that those criteria should be emphasised while rewarding teachers' performance.

**Table 49.** Pedagogues' opinions about the fairness of the teacher performance-related pay implemented in their school with respect to learning process

Claim		PRP implemented in school is fair		Mann-Whitney U-test results
		Mean (SD)	N	Z-test value
Pupil academic performance is analysed systematically	Pos.	3.84 (1.1)	601	-3.54*
	Neg.	3.11 (1.27)	37	
School supports' pupil participation in olympiads and competitions	Pos.	3.75 (1.11)	723	-3.76*
	Neg.	1.86 (0.9)	7	

Note: \* significant difference between groups at 0.05 level; 5-point scale; SD – standard deviation; N – sample size; PRP – performance-related pay; “Pos.” – answers rather or totally agree; “Neg.” – answers rather or totally not agree; The answers “hard to evaluate, do not really know” are not presented in this table. Source: compiled by the author

Although teachers are primarily rewarded on the basis of learning outcome indicators because they are more measurable compared to learning process indicators, the correlation analysis indicated that despite all the assumptions, the characteristics of the learning process matter in creating opinions about performance-related pay in schools (see Table 50).

**Table 50.** Correlations between characteristics of the learning environment and pedagogues' opinions about the performance-related pay implemented in their school

Learning environment characteristics	PRP supports achieving schools' objectives		PRP implemented in school is fair	
	$\rho$	N	$\rho$	N
81: Pupils understand what teachers expect of them	0.12**	2,276	0.24**	753
82: Pupils are encouraged to give their best	0.14**	2,295	<b>0.31**</b>	758
83: Pupils follow the rules and discipline	0.1**	2,294	0.28**	758
84: Teachers care for pupils	0.09**	2,298	0.26**	761
85: Teachers treat pupils fairly	0.08**	2,279	0.24**	755
86: Pupils can always turn to the teacher with their problems	0.1**	2,286	0.26**	754
97: Pupils are involved in organising school life	0.14**	2,212	0.25**	743

Note: The number before the claim refers to its number in the questionnaire (see Appendix 3); Spearman correlation;  $\rho$  – correlation coefficient; \*\*correlation significant at 0.01 level; Correlation coefficients higher than 0.3 are in boldface; N – sample size; PRP – performance-related pay  
Source: author's calculations

For example, the additional analysis using the Mann-Whitney U-test reflects that in schools where pupils are encouraged to give their best (mean 3.77, SD 1.1), the opinions of the fairness of performance-related pay are statistically significantly higher (Z-test value -3.91, Asymp. Sig 0.00\*) compared to schools where pupils are not encouraged (mean 2, SD 1.25). However, this finding may also imply the importance of creating a performance-oriented culture among pupils. Although evaluating the achievement of teachers in establishing the learning process is subjective and difficult, it is still an important factor in creating a supportive atmosphere for the learning process. Therefore, teachers can be rewarded for creating a learning environment, however, this should be done as a one-off incentive not as regular pay.

To conclude, the Estonian study also indicated the importance of teachers' activities; however, the relationships were not as strong as they were in the case of the characteristics of school management. Despite this, in addition to several learning process activities that should be taken into consideration when rewarding teachers on the basis of performance, teachers' efforts in creating a motivating learning environment should also be emphasised.

Additional evidence about the positive influence of the learning process on pedagogues' opinions about performance-related pay was found by also conducting other methods of statistical analysis<sup>82</sup>. The regression analysis, where opinions about performance-related pay was the dependent variable and factors about characteristics of teachers' activities were independent variables<sup>83</sup> indicated positive and statistically significant relationships between the learning process ( $\beta = -0.23^{84}$ ) and pedagogues' opinions about performance-related pay being motivating for teachers. In addition, the regression analysis between the factors of teachers' activities and pedagogues' opinions of performance-related pay supporting the achievement of school objectives provided evidence that higher levels of the learning process ( $\beta = -0.25$ ) create more favourable feelings about performance-related pay supporting schools achieving their goals. However, those results need to be treated with caution because the descriptive level of this model was relatively low (Adjusted R Square 0.07 and 0.06).

One of the aims of this dissertation was to ascertain teacher and headmaster preferences in selecting the criteria for rewarding teachers on the basis of performance. Therefore, the author compared headmasters' and teachers' opinions of the rationality of the performance-related pay criteria implemented in Esto-

---

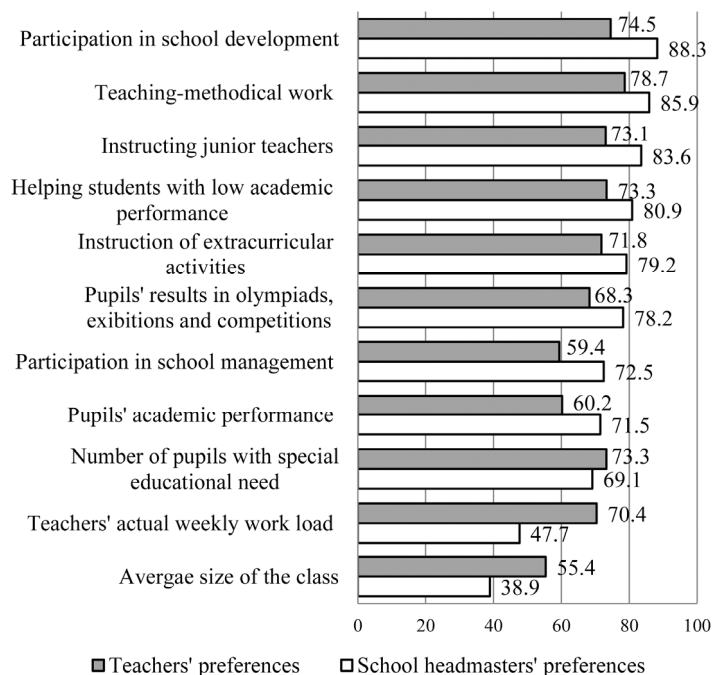
<sup>82</sup> The other statistical methods for exploring the relationships between teachers' activity characteristics and pedagogues' opinions about the teachers' performance-related pay implemented in their school were performed during the project „Performance and analysis of its influencing drivers in general educational schools”. The specific results of the factor analysis and regression analysis are discussed in the project report on pages 182–184, (Türk *et al.*, 2011)

<sup>83</sup> See the description about this measurement tool from subchapter 2.1.2, p. 108–109.

<sup>84</sup> Dependent value is transformed using square root transformation. As the variables are negatively skewed, a reflection is computed (the direction of all of the relationships are reverse).



nian general educational schools (see Figure 22). It is possible to conclude from these results that both headmasters' and teachers' preferences in the two most rational performance-related pay criteria match. Both of them think that teachers' participation in school development and teaching-methodological work should be rewarded. When ranking the preferences, interesting results appear about academic performance. Both teachers and headmasters do not see pupil academic performance as being a reasonable criterion for rewarding teachers on the basis of performance. This result concurs with the theory, which underlines (Meyer, 1997; Mancebon and Bandres, 1999) that the indicators commonly used to assess school performance – average and median test scores – are highly flawed because they tend to be affected by pupil mobility and by non-school factors from outside the formal education context that contribute to pupil achievement (e.g. peers and family, pupil personality, innate abilities etc.). In addition, academic performance is not only influenced by single teachers but other factors as well. Likewise, the author emphasises that measuring school performance on the basis of academic performance is hazardous, as it is cumulative over time, and therefore, academic performance indicators reflect information about school performance that tends to be out of date.



**Figure 22.** School headmasters' and teachers' preferences according to the rationality of the performance-related pay criteria for rewarding teachers' performance

Note: The % of answers *totally agree* and *tend to agree* are presented in the current figure; Sample size 2,357.

Source: author's calculations

However, it is problematic that although pedagogues feel that pupil academic performance is not the best criteria, the analysis of the open-ended questions indicated that rewarding teachers based on pupil academic performance is very common in the Estonian general educational schools studied (see Table 51).

**Table 51.** Ten most frequently used performance-related pay criteria in Estonian general educational schools with respect to category of performance-related pay criteria

	<b>Category of PRP criteria<sup>1</sup></b>	<b>Performance-related pay criteria used in Estonian schools</b>	<b>No. of mentions</b>
1.	LP	Pupil participation, instruction and results in olympiads, exhibitions and competitions	395
2.	SM	Participation in school development	160
3.	LP	Instruction in extra-curricular activities	158
4.	LP	Pupil academic performance, teachers' work in preparing pupils for national examinations	120
5.	LP	Current pupil academic performance (positive current grades, annual grades, progress in class and in school)	59
6.	SM	Participation in school management	49
7.	LP	The work of a homeroom teacher	40
8.	SM	Teachers' additional work, special tasks (keeping the school's chronicle, administering the school's web page, editing and publishing the school's newspaper, compiling and implementing matriculation tests, revising them etc.)	40
9.	LP	Teaching-methodological work	36
10.	SM	Teachers' work discipline	27

Note: Sample size 1,388; See the total list of performance-related pay implemented in Estonian general educational schools from Appendix 11; LP – learning process; SM – school management; PRP – performance-related pay; <sup>1</sup> The categorisation of the criteria is done based on the key characteristics of school performance, Figure 6, p. 49

Source: compiled by the author based on the pedagogues' answers to open-ended questions

However, teachers are most frequently rewarded for pupil participation, instruction and results in olympiads, exhibitions and competitions. The 1,388 answers to the open-ended questions pointed out 52 different performance-related criteria (see Appendix 11) and pupil participation in olympiads, exhibitions and competitions were mentioned 395 times. Because it is the most common performance-related pay criteria then it is understandable why the relationship between the perceived fairness of performance-related pay implemented in

schools and pupil results in olympiads was statistically significant (see the correlations in Table 48, p. 165, and more detailed statistics in Table 49, p. 167). The focus on pupil academic performance may be caused by schools trying to achieve high scores in key performance indicators set at the government level<sup>85</sup>. In addition, the pedagogues' answers showed that the ten most common performance-related pay criteria are linked to learning process or school management. This is understandable, as the learning process and school management are both easier to assess compared to the learning environment. However, it is worth mentioning that the objective of school is seen as being much broader than just producing pupils with high academic performance (Põhikoolija gümnaasiumiseadus, 2010). Their general skills are more valuable for coping in society and life. Similarly, the learning environment plays an important role in creating a favourable atmosphere for gaining knowledge and skills (Department of Education, 2000).

Therefore, the author agrees that academic performance can be used as one of the indicators of school performance, but not as the main indicator. If possible, then criteria related to creating the learning environment should be considered as well. The results of the open-ended questions provided some empirical evidence that in some Estonian general educational schools (5 mentions, see Appendix 11), teachers' efforts in creating the learning environment are rewarded. For example, teacher communication and getting along with pupils, discipline in the classroom, creating a motivating and creative learning environment, the performance of teachers in the classroom and supporting and involving pupils are evaluated based on satisfaction questionnaires conducted among pupils. Certainly, learning environment indicators are subjective by nature, but they provide valuable additional information about creating the necessary environment for learning on the one hand, and developing general skills (communication skills, ability to analyse, and think etc.) on the other.

While creating a fair and accepted performance-related pay scheme for teachers, teachers should accept those criteria that form the basis for assessing their performance. As Vroom *et al.* indicated (2005), the assumption for implementing performance-related pay is that the financial incentive should be correlated to the performance outcome, and teachers should have the power to influence school performance. Otherwise the reward system may cause dissatisfaction and resistance, and the performance-related pay system might be perceived as unfair. Based on the theory of performance-related pay<sup>86</sup> on the other hand, headmasters should develop performance-related pay schemes and criteria for directing the performance of teachers towards achieving overall school performance (Dransfield, 2000; Hanley and Nguyen, 2005), because the basic concepts underlying performance-related pay is that employees perform better

---

<sup>85</sup> See a more detailed description of key performance indicators defined at the government level in subchapter 1.1.2.

<sup>86</sup> See the discussion about the definition and essence of performance-related pay in subchapter 1.1.2.

when their compensation is more closely linked to their effort or outputs, and organisational performance will improve with employee incentives more closely aligned with organisational goals (Heinrich and Marschke, 2009). Similarly, as mentioned in the theoretical section, headmasters are accountable to the government, and the performance of teachers is primarily evaluated by headmasters. The aforementioned discussion may result in differences in headmasters' and teachers' preferences in selecting performance-related pay criteria. However, in order to achieve balanced school performance, it is recommended to foster synergy. The results suggest similar indications (see Table 52), but there is not very strong evidence about the aforementioned theoretical assumptions about headmasters' and teachers' preferences.

**Table 52.** A comparative view of what pedagogues view as the most reasonable teacher performance-related pay criteria on the basis of the category of each criteria

	Headmasters		Teachers	
	Mean	Rank No.	Mean	Rank No.
<b>Learning process related criteria</b>				
Teaching-methodological work	4.44	2.	4.16	1.
Pupil results in olympiads, exhibitions and competitions	4.3	3.	4.02	4.
Helping pupils with low academic performance	4.28	5.	4.02	3.
Instruction in extra-curricular activities	4.17	6.	3.96	7.
Pupil academic performance	3.95	8.	3.69	9.
<b>Number of pupils with special educational needs</b>	3.88	9.	<b>4.01</b>	5.
<b>Teachers' actual weekly workload</b>	3.35	10.	<b>3.94</b>	8.
<b>Average size of the class</b>	3.21	11.	<b>3.53</b>	11.
<b>School management related criteria</b>				
Participation in school development	4.51	1.	4.03	2.
Instructing junior teachers	4.28	4.	3.97	6.
Participation in school management	4.12	7.	3.62	10.

Note: The rank number reflects the rank in pedagogues' preferences; Criteria that teachers prefer more compared to headmasters are marked in boldface; <sup>1</sup> The categorisation of the criteria is conducted based on the key characteristics of school performance, Figure 6, p. 49  
Source: author's calculations

Although the results indicate that teachers prefer criteria related to their effort in creating the learning process, the result that headmasters are keen on criteria that

evaluate teacher participation in school management was not so clear. However, to ascertain the most remarkable gaps between headmasters' and teachers' preferences, the author made additional calculations based on both headmasters' and teachers' opinions of performance-related pay highlighted in the questionnaire. Despite the fact that the gap between headmasters' and teachers' preferences are most remarkable in the case of participation in school development and management (see Appendix 12), the ranking of the preferences does not show very large differences in headmasters' and teachers' opinions about performance-related pay criteria. Although the gap between headmasters' and teachers' opinions about teacher participation being reasonable is considerable in percentage points, teachers put participation in school development in second place in performance-related pay criteria preferences. A similar finding can be seen, with a slightly greater difference, for the criteria "teacher participation in school management", where headmasters put this in seventh place and teachers in tenth position.

So, basically, the preferences of headmasters and teachers are quite similar. The finding about teacher participation in school management is similar to results from previous analyses (see Table 15, p. 119), which reflect that headmasters do not sufficiently involve teachers in management decisions, such as creating the performance appraisal system. The results also indicate that although both teachers and headmasters did not value academic performance highly as a performance-related pay criterion, headmasters have higher opinions of rewarding teachers on the basis of pupil academic performance compared to teachers. However, that may result from the fact that national examination results are published annually in Estonian daily newspapers in order to provide parents with information, since in Estonian general educational schools they have the freedom to choose a school for their children (Table 7, p. 78). Thus, parents often evaluate schools on the basis of these charts. However, the budgets in Estonian schools are directly dependent on the number of pupils, and as parents in Estonia have the freedom to choose the best school for their children, headmasters are motivated to achieve higher results in the national examination rankings and are willing to motivate teachers to achieve this. Teachers, however, do not have complete power to influence pupil academic performance because it is affected by other factors as well, which is why they are not so keen on being rewarded on the basis of pupil academic performance.

When analysing performance-related pay criteria in terms of how reasonable each criterion is, both headmasters and teachers rank "instructing junior teachers" highly. Therefore, instructing young teachers is seen as an important performance appraisal criterion for rewarding teachers. However, based on the medians (see more specific descriptive statistics in Appendix 13), it is possible to conclude that headmasters' preferences in performance-related pay criteria vary more than teachers' preferences. The medians have a maximum value in the case of four performance-related pay criteria: participation in school development, teaching-methodological work, pupil results in olympiads, exhibitions and competitions and teachers' activities in helping pupils with low academic performance to gain knowledge in the subjects taught and pass them.

The medians do not reflect significant differences between teachers' preferences in selecting performance-related pay criteria for rewarding them. However, some differences emerge when differentiating performance-related pay criteria between pedagogues (teachers vs. headmasters). The results of the Mann-Whitney U-test indicate that there are statistically significant differences between headmasters' and teachers' opinions in all performance-related pay criteria (see Appendix 13). However, the results provide evidence that teachers value the performance-related pay criteria "actual weekly workload", "average size of the class" and "number of pupils with special educational needs" statistically significantly higher than headmasters. Interesting findings can be found from the case studies about the opinions of those criteria. First of all, it is important to note that teachers are rewarded on the basis of those criteria in two schools (school No. 1 and school No. 3, see Appendix 8). However, teachers have ambivalent opinions about those criteria in the studied schools. For example, 4 teachers out of 6 believe that those criteria matter, as they determine how much effort teachers have to exert when preparing lessons and teaching pupils based on their individuality. However, those teachers are not sure whether those criteria are actually suitable as performance-related pay criteria because they do not reflect actual performance. Teachers argue that despite the size of the class, all teachers have to make an effort in order to achieve high pupil performance.

Therefore, the results actually indicate that teacher preferences are more related to their individual performance in the classroom. Certainly, the number of pupils with special educational needs is important in achieving school objectives, as schools have to produce citizens who can cope in society. Therefore, in order to achieve this, extra effort should be exerted when dealing with pupils who are more likely to face difficulties in adult life if they do not receive special attention during their school years. In the author's opinion, paying teachers on the basis of actual weekly load is necessary in the sense that teachers' overtime work should be rewarded. Nevertheless, tying teachers' salaries to workload may result in teachers concentrating on working long hours, which may lead to exhaustion. Therefore, overtime should not be rewarded on a regular basis.

In addition to the criteria pointed out in the questionnaire, the pedagogues participating in this research had an opportunity to mention additional performance-related pay criteria not listed in the questionnaire, but that they see as important activities to be rewarded for. The respondents most frequently mentioned that not only should work with low-performance pupils be rewarded, but their work with talented and smart pupils should also be valued. Teaching based on pupil capability, interests and talent is essential as it makes it possible to concentrate on pupil development and also raise their motivation to learn, which also may result in raising their academic performance. In addition, rewarding teacher self-development was also seen as a great tool to enhance teaching qualifications and knowledge.

The case studies implemented in three Estonian general educational schools provided additional information about the performance-related pay systems in their schools. For example, in the first school (School No. 1, see Appendix 8),

where performance-related pay is not implemented systematically (is not implemented regularly, but is dependent on the availability of school resources), teachers are rewarded whenever there are unused resources in the salary fund. When that occurs, teachers are rewarded if their pupils have gained good results in olympiads or competitions or if teachers have contributed to projects.

In the second school (school No. 2), where performance-related pay is implemented systematically, performance-related pay is believed to both motivate teachers and support the achievement of the school's objectives. However, the teachers emphasised the motivational influence of performance-related pay more compared to the headmasters. The performance-related pay in this school is primarily based on academic performance, in particular on rewarding teachers on the basis of high results in the national examinations. Similarly, those teachers are rewarded who prepare pupils for olympiads. However, it is important to note that the peculiarities of the class are taken into consideration. For example, it is possible that less high results in national examinations are rewarded as well, if the general ability of the class is also low and the teacher has managed to induce some increase in their results. Similarly, when teachers at a higher and lower occupational level both perform equally in instructing pupils for olympiads, the teacher at the lower occupational level will get a higher bonus compared to the teacher at the higher occupational level. In addition, teachers are rewarded on the basis of organising entrance exams and participating in school management and development. This approach is motivating for all teachers and also takes into consideration the current developmental situation. The context for potential increases in performance varies and is also dependent on other factors, which makes the performance-related pay system motivating for teachers and also sustainable. However, it is mentioned that in the context of restricted budgets, additional work will be rewarded before exceptional performance. The weakness of the performance-related pay system in the second school is said to be the lack of written principles and the lack of rewards for teachers that teach subjects where no national examinations, olympiads or competitions are held. In the teachers' opinions, their work in preparing innovative study materials should also be rewarded.

The third school rarely implements performance-related pay, and when they do, teachers are paid according to pupil results in national examinations, pupil results in olympiads and instructing extra-curricular activities. Similarly, additional work in instructing extra-curricular activities and participation in school development (participation in projects) are also rewarded. However, one teacher in the school believes that teachers should not be paid according to their performance in instructing extra-curricular activities as this is not related to the everyday learning process. Similarly, a salary system based on occupational level is seen as unfair when the weekly workload is modest. However, one teacher that participated in the case study noted that pupil results in olympiads is not the result of teacher performance, but is directly the pupils' own effort, and therefore, teachers should not get paid for something that they do not do. In her opinion, teachers should be rewarded for participating in school management and development, for instructing

young teachers, compiling new study materials, working with low performing pupils and other additional work. In addition, group-based performance-related pay should be emphasised in the case of national examination results, and organising several events in cooperation is also an important part of teaching.

Therefore, the case studies showed that despite the lack of monetary resources, schools have found ways to provide one-off incentives to motivate their teachers. This shows that schools are active in finding solutions to problems concerning the demotivating fact of low salaries. Similarly, the case studies indicated the increasing interest in the principles of performance-related pay among teachers. They have opinions about what performance-related pay should be like in school, and what activities should be emphasised in order to raise school performance.

## **2.4. Synthesis and discussion of the research results about the relationships between school management, teachers' activities and implementation of performance management**

### **2.4.1. Teacher performance appraisal and performance-related pay as a tool for managing school performance**

The current research provides empirical evidence of the importance of school management in designing a teacher performance appraisal system and performance-related pay (see Table 53). While developing teachers' appraisal and remuneration, not only should the core process in educational production<sup>87</sup> – the learning process and the learning environment that supports the process – be considered, but school management as an important tool in managing the learning process and the environment towards achieving greater school performance/outcomes. Therefore, the current study indicated significant relationships between characteristics of school management and pedagogues' opinions about both teacher performance appraisal and performance-related pay implemented in schools.

---

<sup>87</sup> See a more detailed discussion of the educational process in subchapter 1.1.3.



**Table 53.** Validity of propositions 1a and 3b and a summary of the main findings<sup>88</sup>

<b>Results of testing the propositions</b>	
<b>Proposition 1a:</b> Strategic management, resource management and organisational culture are positively related to pedagogues' opinions about the PA implemented in their schools.	<b>Validity:</b> Supported
<ul style="list-style-type: none"> <li>• <i>Correlation analysis</i> indicated statistically significant relationships between characteristics of school management and pedagogues' opinions of the PA implemented in their school: 1) <i>Strategic management</i> – medium to relatively strong relationships<sup>89</sup> (correlation coefficients 0.17–0.45); 2) <i>Resource management</i> – medium to relatively strong relationships (correlation coefficients 0.2–0.44); 3) <i>Organisational culture</i> – weak to relatively strong relationships (correlation coefficients 0.16–0.46)</li> <li>• <i>Case studies:</i> additional evidence about the importance of school management characteristics in PA design and implementation.</li> </ul> <p>*<i>Regression analysis</i> indicated strategic management (<math>\beta=0.3</math>, t-test value= 5.21, p-value=0.00), organisational culture (<math>\beta=0.11</math>, t-test value= 1.89, p-value=0.06) and resource management (<math>\beta=0.1</math>, t-test value= 1.83, p-value=0.07) are positively related to pedagogues opinions of PA having an influence on work performance.</p>	
<b>Proposition 3b:</b> Strategic management, resource management and organisational culture are positively related to pedagogues' opinions about the PRP implemented in their schools.	<b>Validity:</b> Supported
<ul style="list-style-type: none"> <li>• <i>Correlation analysis</i> indicated statistically significant relationships between characteristics of school management and pedagogues' opinions of the PRP implemented in schools: 1) <i>Strategic management</i> – weak to relatively strong relationships (correlation coefficient varied from 0.07–0.35); 2) <i>Resource management</i> –weak to relatively strong relationships (correlation coefficients 0.05–0.39); 3) <i>Organisational culture</i> – weak to relatively strong relationships (correlation coefficients varied 0.05–0.39).</li> <li>• <i>Case studies:</i> reflected the importance of organisational culture on resource management.</li> </ul> <p>*<i>Regression analysis</i> indicated strategic management (<math>\beta=-0.15</math>, t-test value= -2.33, p-value=0.02) and organisational culture (<math>\beta=-0.13</math>, t-test value= -1.95, p-value=0.05) are positively related to pedagogues' opinions of PRP being motivating for teachers<sup>90</sup>.</p>	

Note: PA – performance appraisal; PRP – performance-related pay; \* additional factor and regression analysis was run during the project “Performance and the analysis of influencing drivers in public schools” (Türk et al., 2011)

Source: author's calculations

<sup>88</sup> See the measuring tool for testing propositions 1a and 3b from Table 12, p. 107 and Table 13, p. 113.

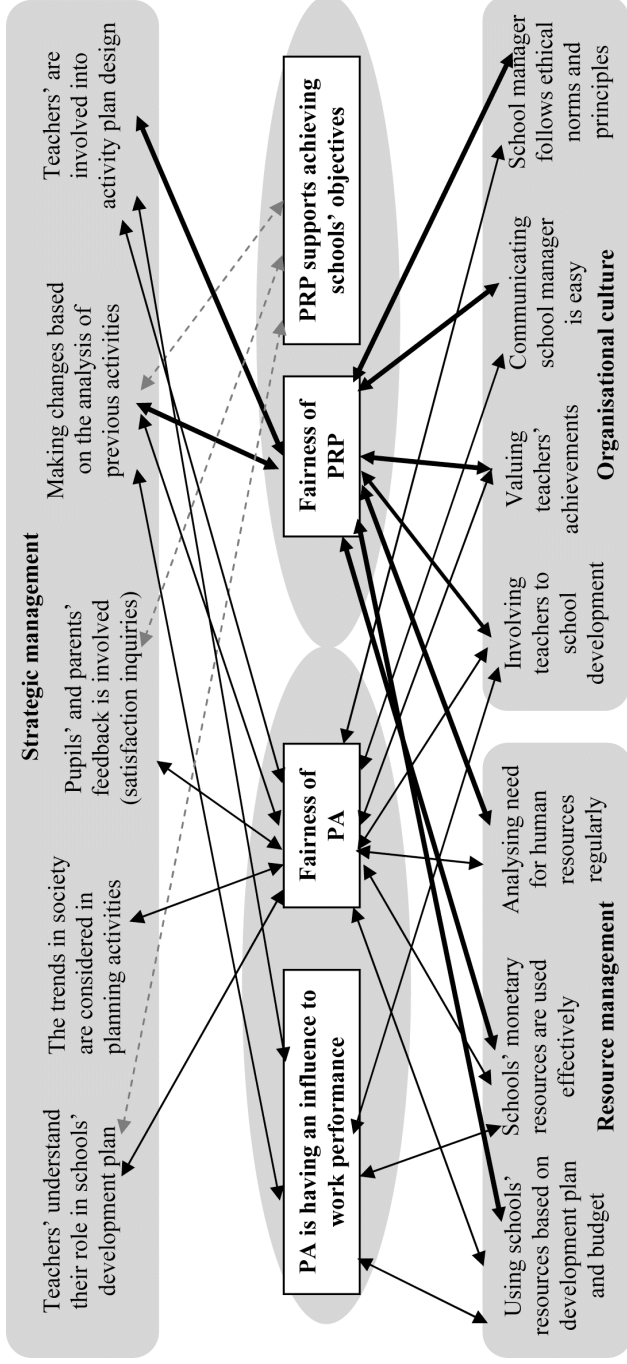
<sup>89</sup> In some social sciences situations a correlation of 0.3 might be regarded as relatively strong and a correlation of 0.5 might be regarded as very strong (De Vaus, 2002).

<sup>90</sup> As the variables are negatively skewed, a reflection is computed (the direction of all of the relationships are reverse).

Therefore, well-organised school management would benefit from developing an accepted performance management in Estonian general educational schools. The important characteristics of school management that formulate pedagogues' opinions about performance appraisal and performance-related pay are presented more specifically in Figure 23. Therefore, the influence of strategic management is most significant during the creation of performance appraisal rather than developing a performance-related pay system. In the case of teacher performance appraisal, the level of strategic management formulates pedagogues' opinions about the influence of performance appraisal on teachers' work performance and its perceived fairness. In the case of performance-related pay, strategic management has an important influence only on the perceived fairness. However, it is important that strategic management was statistically significant in formulating pedagogues' opinions of performance-related pay, although the relationship was rather weak. The results are in accord with the theory, as strategic management provides a solid basis for setting the aims of the teacher performance appraisal system and its design.<sup>91</sup> As teacher performance appraisal should evaluate teacher performance in activities that constitute success for the school, unsuccessful strategic management may lead to an appraisal system that concentrates on irrelevant aspects.

---

<sup>91</sup> see the recommended stages in developing a performance appraisal system in Figure 8, p. 67.



**Figure 23.** The proven relationships between the characteristics of school management and pedagogues' opinions about the performance appraisal and performance-related pay implemented in their school

Note: PA – performance appraisal; PRP – performance-related pay; The relationships between the characteristics of school management and pedagogues' opinions about PRP are marked with boldfaced arrows; The relationships between the characteristics of school management and pedagogues' opinions about PRP achieving school objectives" where relationships over 0.1 are highlighted and marked with broken grey arrow. Source: compiled by the author based on the research results

Similarly, as the development of teacher performance appraisal influences the design of the teachers' reward system, drawbacks in strategic management influence teacher performance appraisal first.

However, the results indicate the importance of good planning and involvement during strategic management in order to obtain valuable information from strategic management necessary for developing a fair and accepted teacher performance appraisal system and performance-related pay system and to create favourable opinions about those management tools. The result emphasises both the importance of analysing the external environment (trends in society and pupil and parent feedback) combined with knowledge from within the school (internal environment). In particular, school behaviour in terms of analysing previous activities and making changes based on the results of this analysis is emphasised. However, the analysis of previous activities influences pedagogues' opinions about both performance appraisal and performance-related pay. This is logical because both of these aspects of performance management concentrate on providing estimations of teachers' past behaviour. Certainly, it is important to emphasise that the past is being evaluated based on the school's view of the future. Therefore, good planning in strategic management provides the necessary knowledge for both designing and implementing performance management.

Teacher involvement in strategic management is essential as it makes teachers aware of the behaviours expected of them, and therefore, helps teachers to understand the role they have to play in achieving the school's general objectives. Involvement in formulating action plans is crucial for affecting opinions about both performance appraisal and performance-related pay, indicating that when teachers have an opportunity to share their view about the behaviour necessary to raise school performance, they also understand what aspects of their behaviour are being evaluated and rewarded, which also provides them with clearer objectives and enables them to concentrate on what is most relevant.

Resource management issues, more specifically whether the allocation of school resources is in accord with the school development plan and budget, whether the school's resources are used effectively and whether the need for human resources is analysed regularly have an influence on pedagogues' opinions about performance appraisal and the fairness of performance-related pay. This finding implies that whenever school resources (both intangible and tangible resources) do not support the aims and tasks set during strategic management, then opinions of performance appraisal and the related remuneration may fall. This must be expected and accords with the theory, as the idea behind performance appraisal and performance-related pay is that they should create a link between the behaviour of individual teachers and the general objectives of their school. Therefore, the influence of teacher performance appraisal is initially seen as being low, when the decisions about the need for human resources are not based on a teacher performance appraisal that makes systematic overviews of the current state of school personnel possible. Similarly, when monetary resources are not distributed to areas that are seen as important in terms of

school development, although teacher performance in those areas are being evaluated, then teachers may experience a role conflict and not understand what is expected of them. Therefore, conflict between the strategic plans and actual behaviour may harm opinions of performance appraisal.

Secondly, when the performance-related pay system does not support the strategic aims set in the development plans, and teachers' remuneration is allocated according to other factors (e.g. workload, rank order in the bonus list – teachers who did not get bonuses recently will get them next), a conflict may also occur between the strategic aims and actual behaviour, as teachers are more likely to concentrate on those aspects that are the basis of the performance-related pay. As pointed out in the theory that performance-related pay is a tool for attracting teachers to schools, this result might also imply that when schools do not regularly analyse their need for human resources and do not design performance-related pay to encourage teachers to increase their professional knowledge and skills and to attract better teachers, then performance-related pay can be seen as rather unfair.

Finally, characteristics of organisational culture were important in both performance appraisal and performance-related pay. The results indicated the importance of creating a performance-oriented and cooperative atmosphere (involving teachers and valuing their achievement) in order to develop teacher performance appraisal and performance-related pay that is accepted in the school. Organisational culture is also essential because it forms a framework for behaviour and communication within the organisation, which is important in fashioning pedagogues' opinions of performance appraisal and performance-related pay. When school managers follow ethical norms in their behaviour and put a lot of effort into developing communication between teachers, performance management appraisal and remuneration are more likely to succeed. The finding from the study about the importance of organisational culture emphasises the importance of good cooperation between headmasters and teachers while implementing new management tools. It is important to note that favourable relationships between headmasters and teachers make it possible to manage change smoothly. For example, the study by Mattila and Aaltio (2006) emphasised the importance of taking the staff into consideration when strategic decisions are made. Commitment is possible only through the participation of the personnel. Therefore, when developing performance appraisal and performance-related pay in Estonian general educational schools, these aspects need to be taken into consideration.

During this study, statistically significantly lower opinions of teacher performance appraisal and performance-related pay were expressed by teachers (see Table 54) that headmasters may have only modestly involved in the development of performance appraisal. The Mann-Whitney U-test indicated that teachers' opinions of their involvement were statistically significantly lower than headmasters' opinions. This is an important shortcoming in the implementation of performance management, as the study provided empirical proof that teacher involvement is statistically significantly and positively related to teachers'

opinions of the implemented teacher performance appraisal in their school. Similarly, sample comparison methods and case studies conducted in Estonian general educational schools showed that those teachers who had been asked to participate in the process of creating the performance appraisal system, had statistically significantly higher opinions of the performance management systems executed. Therefore, the more teachers are involved in the creation process the more positive they feel about the performance appraisal implemented in their schools. When teachers are involved, they understand what is expected of them and they perceive that they are being valued within the organisation.

**Table 54.** Validity of propositions 1b and summary of the main findings<sup>92</sup>

Results of testing the proposition	
<b>Proposition 1b:</b> Teacher involvement in the process of creating the PA is positively related to teacher opinions about the PA system implemented in their school.	<b>Validity:</b> Supported
<ul style="list-style-type: none"> <li>• The results of the <i>Mann-Whitney U-test</i> indicate that teachers have <i>statistically significantly lower opinions</i> of the systematic arrangement of PA, the clarity of its principles and to the fairness of PA.</li> <li>• The results of the <i>Mann-Whitney U-test</i> reflect that teachers have statistically significantly lower opinions (3.61, SD 1.05) of the involvement process compared to school headmasters (mean 3.97, SD 0.78) (<i>Z-test</i> value -5.31, <i>Asymp. sig</i>=0.00)</li> <li>• <i>Correlation analysis</i> showed that teacher involvement in the process of creating PA is related to teachers' opinions concerning the PA implemented in their schools (correlation coefficients with respect to different claims vary from 0.47 to 0.70).</li> <li>• <i>Mann-Whitney U-test</i> results show that teachers who had been involved in the creation of PA, have statistically significantly higher opinions of the systems executed in their schools.</li> <li>• <i>Case studies:</i> teachers have more negative views about PA in schools that have forced performance appraisal without teacher involvement.</li> </ul>	

Note: PA – performance appraisal; SD – standard deviation

Source: author's calculations

The main problems in implementing performance management in Estonian general educational schools revolve over performance appraisal issues. For example, less than half of the pedagogues in Estonian general educational schools see the influence of performance appraisal on teachers' work performance (see Table 15, p. 119). Similarly, one of the most frequently cited reasons for teachers' opposition to performance-related pay is that it is difficult to evaluate teacher performance accurately (Milanowski, 2007). The question about the relationships between teacher performance appraisal and performance-related pay arise from the stages of teacher remuneration design (Figure 13, p. 82), as performance appraisal design usually occurs before developing the

<sup>92</sup> See the measurement tool for testing proposition 1b in Table 12, p. 107.

remuneration scheme. However, the results of the Estonian study provided partial evidence that the implementation of performance-related pay may fail if the performance appraisal system is perceived as being unfair (see Table 55).

**Table 55.** Validity of proposition 3a and a summary of the main findings<sup>93</sup>

Results of testing the proposition	
<b>Proposition 3a:</b> Teachers' opinions about the PA system are positively related to their opinions about PRP	<b>Validity:</b> Partly supported
<ul style="list-style-type: none"> <li>• <i>Wilcoxon signed rank sum test</i> indicated that respondents have less belief that PA has an influence on teachers' work performance. PRP on the other hand is seen as an important tool in achieving school objectives (Z-test value 16.82, p=0.00).</li> <li>• Statistically significant positive, albeit weak <i>correlations</i> were found between opinions of PA and PRP (correlation coefficients vary from 0.05 to 0.13 in the case of teachers and 0.17 to 0.26 in the case of headmasters).</li> <li>• <i>Case studies:</i> one of the reasons for not implementing PRP in the teachers' opinion is the difficulties in evaluating the activities that should be rewarded.</li> </ul>	

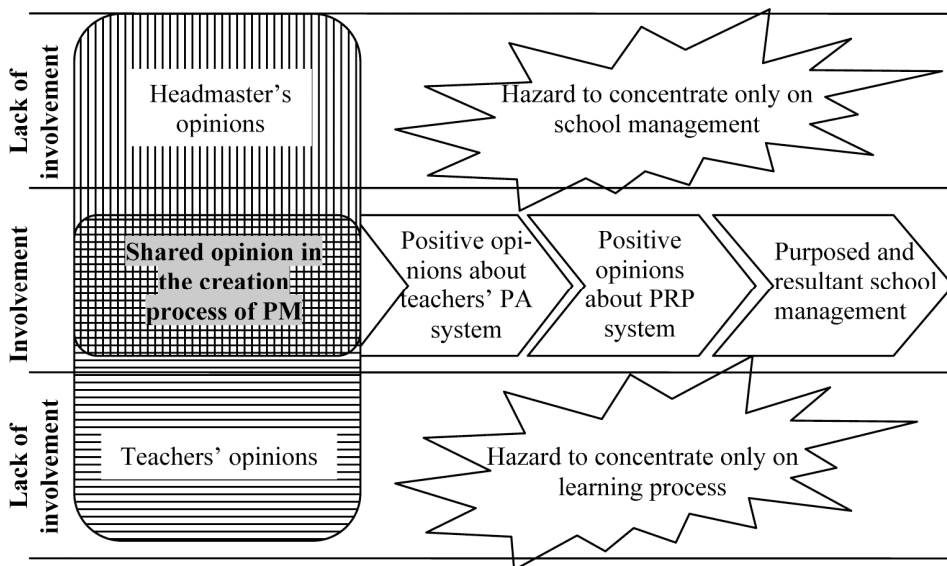
Note: PA – performance appraisal; PRP – performance-related pay; SD – standard deviation  
Source: author's calculations

For instance, the study indicated that positive opinions of performance appraisal have a positive influence on opinions of performance-related pay. Therefore, performance-related pay cannot be implemented well if problems with performance appraisal are left unresolved in the organisation. In addition, when schools are already implementing performance-related pay, then it is recommended to review the appraisal system and remove all the shortcomings that cause teacher dissatisfaction. Although there are statistically significant relationships between performance appraisal and performance-related pay in Estonian general education schools in the case of both teachers and school headmasters, the results are rather weak or moderate. To go even further, it is possible to say that teachers do not realise the link between performance appraisal and performance-related pay in the way that headmasters do.

The explanation in this case is that teachers have very high expectations of performance-related pay so that the problems with performance appraisal are not recognised. Similarly, the lack of knowledge about the relationships between performance appraisal and performance-related pay may also cause this result. However, this is a hazardous situation because a good reward system should be based on fair and reliable evaluation and creating a teacher performance appraisal system is certainly an essential part. Evidence of the teachers' knowledge of the importance of proper evaluation can be found from the case studies where teachers highlighted this as one of the reasons why performance-related pay is implemented modestly.

<sup>93</sup> See the measuring tool for testing proposition 3a in Table 13, p. 113.

When synthesising the findings of the aforementioned propositions (see Table 54 and 55) about teacher involvement and the influence of performance appraisal on teacher remuneration and the results of propositions 1a and 3b (see Table 53, p. 177), an important pattern for management theory can be highlighted (see Figure 24).



**Figure 24.** Empirical evidence about the relationships between teacher involvement and pedagogues’ opinions about performance appraisal and performance-related pay  
 Note: PM – performance management; PA – performance appraisal; PRP – performance-related pay  
 Source: compiled by the author based on the results of testing propositions 1a, 1b, 3a, 3b

The following pattern emphasises the joint opinions of headmasters and teachers in the process of achieving school objectives. Therefore, when setting the framework for school performance management, which it is assumed will enhance school performance, the participation of both teachers and headmasters in the planning and creation process is essential. If the performance appraisal system is developed as a joint effort, then the principles of performance appraisal are well understood, and the performance appraisal system will be perceived as being fair and systematically organised. Opinions of performance appraisal, on the other hand, relate to opinions of performance-related pay, which means that positive opinions of performance appraisal help produce positive opinions of performance-related pay. Therefore, performance-related pay is perceived as being fair when employees have had an opportunity to develop it according to their own needs and expectations. However, a lack of involvement or headmaster-centred management creates negative opinions among teachers and too much concentration on school management. That is hardly ever a favourable situation for school development. The author recommends creating a synergy



between school management and the learning process in order to guarantee the balanced development of the school. This can be achieved through emphasising both school management and characteristics of teachers' activities in teacher performance appraisal and performance-related pay.

A crucial stage in the development of both performance appraisal and performance-related pay is the selection of criteria based on how teachers' work performance is being evaluated and rewarded. The validity of the propositions defined to determine the relationship between the characteristics of teachers' activities and pedagogues' opinions of performance appraisal and performance-related pay are presented in Table 56, and make it possible to conclude which criteria pedagogues see as important.

**Table 56.** Validity of propositions 2a and 5a and a summary of the main findings<sup>94</sup>

Results of testing the propositions	
<b>Proposition 2a:</b> The learning process and learning environment are positively related to pedagogues' opinions about the teacher PA implemented in their schools.	<b>Validity:</b> Supported
<p><i>Correlation analysis</i> indicated statistically significant relationships between characteristics of teachers' activities and pedagogues' opinions of the PA implemented in their school: 1) <i>Learning process</i> - medium to relatively strong relationships (correlation coefficient varied from 0.22 to 0.38); 2) <i>Learning environment</i> - medium to relatively strong relationships (correlation coefficients 0.22 to 0.34).  <i>*Regression analysis</i> indicated learning process (<math>\beta=0.39</math>, t-test value= 6.88, p-value=0.00) is positively related to pedagogues' opinions about PA having an influence on work performance.</p>	
<b>Proposition 5a:</b> The learning process and learning environment are positively related to pedagogues' opinions about the PRP implemented in their schools.	<b>Validity:</b> Supported
<p><i>Correlation analysis</i> indicated statistically significant relationships between characteristics of teachers' activities and pedagogues' opinions of the PRP implemented in their school: 1) <i>Learning process</i> - weak to medium relationships (correlation coefficient varied from 0.09 to 0.29); 2) <i>Learning environment</i> - weak to relatively strong relationships (correlation coefficients 0.08 to 0.31).  <i>*Regression analysis</i> indicated learning process (<math>\beta=-0.25</math>, t-test value= -3.62, p-value=0.00) is positively related to pedagogues' opinions of the PRP being motivating for teachers<sup>11</sup>.</p>	

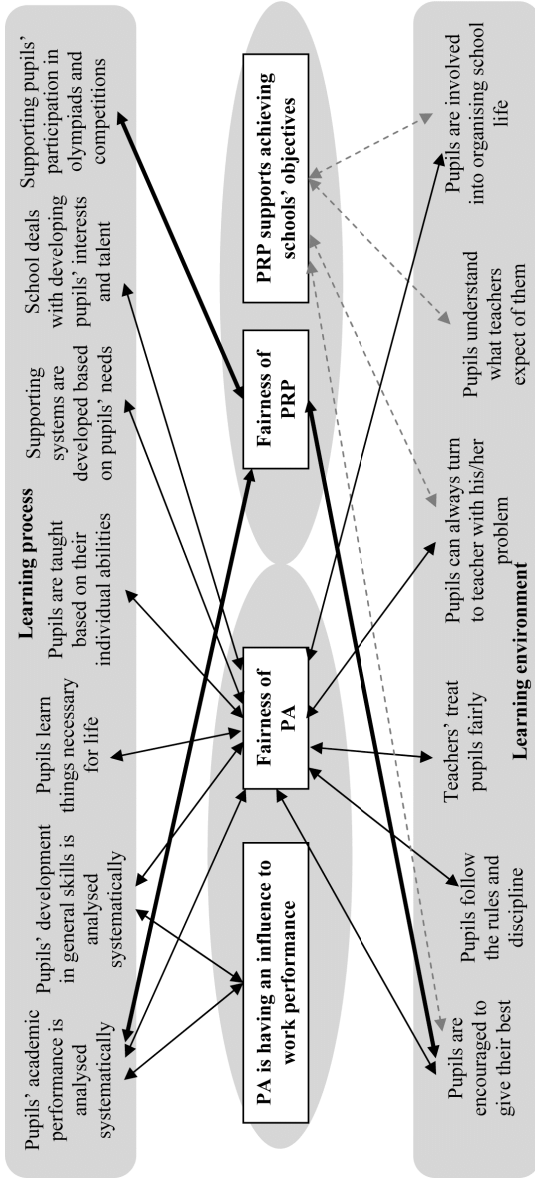
Note: PA – performance appraisal; PRP – performance-related pay; SD – standard deviation; \*additional factor and regression analysis was run during the project “Performance and analysis of influencing drivers in public schools” (Türk et al., 2011) Source: author's calculations

<sup>94</sup> See the measuring tool for testing propositions 2a and 5a in Table 12, p. 107 and Table 13, p. 113.

Therefore, both the learning process and learning environment were related to pedagogues' opinions of performance appraisal and performance-related pay. However, the relationships were not as strong as in the case of school management characteristics. Nevertheless, the current analysis makes it possible to define what needs to be taken into consideration in the design of both of these management tools, and provides additional information about the selection of both performance appraisal and performance-related pay criteria.

The important characteristics of teachers' activities that help form pedagogues' opinions about performance appraisal and performance-related pay are presented more specifically in Figure 25. The results indicate that the characteristics of the learning process and learning environment are more related to pedagogues' opinions of performance appraisal than performance-related pay. Similarly, the characteristics of the learning process are more related to pedagogues' opinions compared to the learning environment. This result may be explained by the fact that the characteristics of the learning process are more directly linked to the teachers' work in the classroom and because it is also much easier to measure. Therefore, characteristics of the learning process are primarily used in appraising and rewarding teachers. The learning environment's modest influence on pedagogues' opinions of performance appraisal and performance-related pay, on the other hand, may result from its subjective nature. However, while appraising the performance of teachers based on aspects of the learning environment is quite common, rewarding teachers based on aspects of the learning environment is not common and is hazardous as well because precise numerical estimations of individual efforts to create a good learning environment are difficult to ascertain. Because of the subjectivity the theory also states that teachers prefer not to be judged on the basis of their performance in the classroom. For example, the teachers' work in creating the learning environment is often appraised via a single classroom observation. Such an approach is also common in England (DfEE, 2000). This appraisal is quite random, and is not sufficient or reliable. Appraisal results can become distorted due to the appraisers' preferences in terms of teaching technique and bias and value judgements. Furthermore, teachers do not like their faults being pointed out by outsiders whose only role is to do a sample inspection and whose estimation is inaccurate and tendentious because they only do sample inspections. Therefore, it is understandable that a more significant link exists between the learning process and opinions rather than the learning environment and opinions.

However, as the learning environment is still an important factor that contributes to the success of the learning process (Department of Education, 2000), the performance of teachers in this field should be emphasised systematically in the case of teacher performance appraisal. The study showed that the characteristics of the learning environment such as encouraging pupils, disciplining pupils, the fair treatment of pupils, involving pupils in organising school life, setting clear expectations for pupils and creating good relationships between pupils should be appraised during teacher performance appraisal.



**Figure 25.** Proven relationships between the characteristics of teachers' activities and pedagogues' opinions of the performance appraisal and performance-related pay implemented in their school

Note: PA – performance appraisal; PRP – performance-related pay; The relationships between the characteristics of teachers' activities and pedagogues' opinions of PA are marked with regular arrows; The relationships between characteristics of school management and pedagogues' opinions of PRP are marked with arrows in boldface; The relationships with a correlation coefficient of at least 0.28 are indicated except in the case of the claim "PRP supports achieving schools' objectives", where relationships over 0.1 are indicated and are marked with broken grey arrow. Source: compiled by the author based on the research results.

If this is done, the opinions of the teacher performance appraisal system implemented in schools are much more positive. Secondly, the teacher performance appraisal system should capture activities that are very much related to creating learning interest. For example, in the pedagogues' opinions from Estonian general educational schools, analysing pupil development in general skills, teachers' performance in teaching pupils things necessary in life, teaching based on needs, capabilities, talent and interests are all seen as important in addition to appraising pupil development in academic performance. While designing performance-related pay for teachers, two characteristics of the learning process and one characteristic of the learning environment matter relatively highly. Therefore, while rewarding teachers, the Estonian study indicated the importance of pupil academic performance and pupil participation in olympiads and competitions. The reason behind this may be the current practice in Estonian general educational schools where teachers are primarily rewarded according to pupil participation and results in olympiads and pupil academic performance (results in national examinations, positive current grades, annual grades, pupil progress in class and in school) (see Appendix 11).

The previous analysis provided some additional hints about selecting performance appraisal and performance-related pay criteria. However, the results of testing the validity of the propositions aimed at determining pedagogues' opinions about the use and preferences of performance appraisal and performance-related pay criteria are presented in Table 57.

The central idea in implementing performance management is to raise school performance (Mwita, 2000; Armstrong, 2000; Hartog *et al.*, 2004; Kettl and Kelman, 2008; Krishnapillai, 2009; Walker *et al.*, 2010)<sup>95</sup>. However, there are various ways to define school performance, and because school performance is easier to measure on the basis of pupil grades and examination results, many schools measure their performance on the basis of pupil academic performance. Academic performance may be emphasised because it is set as a key performance indicator by the Estonian Ministry of Education and Research, who compare school achievement using those key performance indicators. Therefore, school headmasters are motivated to perform well in pupil academic performance. The Estonian study indicated that Estonian schools do not have a unified view of school performance because the performance indicators mentioned by the respondents vary considerably. However, the results also showed that school performance is most frequently defined through pupil academic performance. Therefore, the problem is that, at least based on the Estonian study, the performance indicators tend to be too narrow, which may mean that teachers focus on preparing pupils for national examinations and not to participate in society.

---

<sup>95</sup> See the definition of performance management from Appendix 1.

**Table 57.** Validity of propositions 2b, 2c, 5b and summary of the main findings<sup>96</sup>

<b>Results of testing the propositions</b>	
<b>Proposition 2b:</b> The achievement of school objectives is primarily evaluated according to pupil academic performance.	<b>Validity:</b> Supported
<ul style="list-style-type: none"> <li>• Estonian schools do not have a unified view of school performance – the performance indicators mentioned by the respondents vary considerably.</li> <li>• <i>Open-ended questions:</i> The school performance indicators in Estonian general educational schools are academic performance centred. The 3 most frequently mentioned school performance indicators: 1) current academic performance, grades (286 mentions); 2) the percentage of pupils continuing studies at the next level of education (257); 3) national examination results (246). Those 3 most important school performance indicators are those that have been listed as key performance indicators by the Ministry of Education and Research (also evaluated during external school evaluations).</li> </ul>	
<b>Proposition 2c:</b> Teachers' preferences in selecting teacher performance appraisal criteria are different from headmasters' preferences.	<b>Validity:</b> Supported
<ul style="list-style-type: none"> <li>• <i>Descriptive statistics:</i> During the learning process, teachers emphasised the importance of pupil results in olympiads, exhibitions and competitions and instruction in extra-curricular activities. Headmasters put more emphasis on criteria that are more related to school management (e.g. teacher cooperation, instructing junior teachers).</li> <li>• <i>Mann-Whitney U-test</i> results: teachers have statistically significantly higher opinions (mean 3.18, SD 1.56) compared to headmasters (mean 2.92, SD 1.43) about one performance appraisal criterion – number of pupils taught (Z-test value -1.99, Asymp.sig =0.05), and higher opinions of the criterion “teachers’ actual weekly workload”.</li> <li>• <i>Case study</i> results: most valued criteria in PA are teachers’ weekly workload, number of pupils taught, the performance of teachers in the classroom, giving feedback, communicating with pupils, teachers’ work with low performing pupils, work in instructing extra-curricular activities and pupil academic performance. Participation in school management is not valued so highly.</li> </ul>	

<sup>96</sup> See the measuring tool for testing propositions 2b, 2c, 5b in Table 12, p. 107 and Table 13, p. 113.

<b>Results of testing the propositions</b>	
<b>Proposition 5b:</b> Teachers' preferences in selecting criteria for rewarding their work are more directly linked to their work in the classroom.	<b>Validity:</b> Supported
<ul style="list-style-type: none"> <li>• <i>Descriptive statistics:</i> teachers prefer criteria that are related to their individual effort in creating the learning process. Headmasters' and teachers' preferences for PRP criteria vary, but not to a large extent. Headmasters and teachers value teacher participation in school development and teaching-methodological work.</li> <li>• The <i>Mann-Whitney U-test</i> result: teachers have higher preferences only in three criteria – teachers' actual workload (z-test value -7.85, p=0.00), average size of the class (z-test value -4.68, p=0.00), and number of pupils with special educational needs (z-test value -1.93, p=0.05).</li> <li>• <i>Case studies:</i> evidence about concentrating on teachers' individual work in the class-room. Teachers should not be rewarded based on pupil results in olympiads or competitions, teachers' additional work in instructing extra-curricular activities, academic performance and work in homeroom teaching.</li> </ul>	

Note: PA – performance appraisal; PRP – performance-related pay

Source: author's calculation

The three most frequently mentioned performance indicators were current academic performance, grades, the percentage of pupils continuing studies at the next level of education and the results of the national examination. Certainly, it is much easier to define school objectives exclusively in terms of academic performance, but the question is whether good results in national examinations guarantee that schools achieve their main objectives at the government level – produce young people who are creative, multifaceted, socially mature, reliable, conscious of their objectives and achievement-oriented in different fields of life (Põhikooli- ja gümnaasiumiseadus, 2010). Similarly, concentrating exclusively on key performance indicators valued at the governmental level may result in the special characteristics of individual schools being overlooked. However, while identifying the implications of these results, since respondents were only asked to mention the three most important criteria, these results do not make it possible to conclude that Estonian schools concentrate exclusively on those criteria. However, these results make it possible to form a general map of the emphasis of Estonian general educational schools.

As the previous discussion indicated it is important to create a performance management system in cooperation with both teachers and headmasters, it is also important that both teachers' and headmasters' preferences for performance appraisal and performance-related pay criteria are taken into consideration. This helps achieve synergy between school management and teachers' activities. The Estonian study indicates that although there are concurrencies in teachers' and headmasters' preferences in selecting performance appraisal criteria (e.g. creating a motivating and creative learning environment, teaching-methodological work), headmasters' and teachers' views of reasonable performance appraisal differ. Differences may be found when analysing the pedagogues' top ten

preferences. Therefore, developing a unified and shared performance appraisal system may become more difficult as teachers and headmasters opinions do not always match.

In conclusion, teachers emphasise performance appraisal criteria that are more directly linked to their performance in creating the learning process. For example, compared to headmasters' opinions, teachers have statistically significantly higher opinions of the criterion "number of pupils taught" and higher opinions of "teachers' actual weekly workload". In addition, they emphasise the importance of pupil results in olympiads, exhibitions and competitions, helping pupils with low academic performance to gain knowledge in the subjects taught and help them pass and instruction in extra-curricular activities, while these are not among the headmasters' ten most valued performance appraisal criteria. As expected, school headmasters have higher opinions of performance appraisal criteria related to teachers' participation in school management and development. School headmasters emphasise teachers' cooperation with parents and the performance of teachers in the classroom, while teachers do not think that these criteria should be among the ten most essential performance appraisal criteria. The criteria that are most directly linked to the learning process and learning environment can be seen in the results of the case studies implemented in three Estonian general educational schools. Therefore, criteria related to both the learning process and the learning environment should be considered in the teacher performance appraisal system. In contrast to the quantitative study (the questionnaire), participation in school management is not valued so highly in the case studies of Estonian general educational schools.

The current study reflected that a shared view of performance-related pay may not be as difficult as one may assume because although headmasters' and teachers' preferences for performance-related pay criteria varied, the concurrence of these preferences was more significant. This is positive because it is definitely a good sign that headmasters' and teachers' are of the same opinion about the main purpose of school. However, teachers see that their salary should be more dependent on the teachers' actual workload, average size of the class and number of pupils with special educational needs. Therefore, it is possible to conclude that teachers' preferences are more related to their individual performance in the classroom. This finding was confirmed by the results of the case studies as well. For example, teachers who participated in the case study indicated that all those activities that are not directly linked to work in the classroom should not be rewarded. Instructing extra-curricular activities, results in olympiads and occupational level were mentioned as examples. The importance of performance-related pay criteria that were linked to individual work effort in the classroom can be found from the results of the correlation analysis between the learning process and pedagogues' opinions of both performance appraisal and performance-related pay (see also Figure 25, p. 187). However, while considering the educational process (see subchapter 1.1.3.) and singularities that emanate from the education sector; for instance, the importance of cooperation among teachers in order to achieve integration between several subjects, then

concentrating exclusively on individual teacher performance during appraisal and remuneration is not the best solution. Similarly, as schools are currently more like business organisations, the participation of teachers in school management should be emphasised as well. Despite the common solution that teachers are rewarded according to aspects of the learning process that are easier to measure, the current study indicates the importance of the characteristics of the learning environment as well. This kind of information can be gathered from satisfaction interviews; however, characteristics of the learning environment should not be the basis of remuneration on a regular basis, but rather used as an incentive.

Additional information can be found from the comparative view of school performance indicators and the most frequently used performance appraisal and performance-related pay criteria in Estonian general educational schools (see Appendix 14). As a result, it is possible to conclude that while Estonian schools measure their performance primarily based on pupil academic performance (running academic performance, the percentage of pupils continuing their studies at the next school level and the results of national examinations), both performance appraisal criteria and performance-related pay criteria are not as oriented towards academic performance as one would assume. For example, the two most frequently used performance appraisal criteria are participation in school management and cooperation with parents, which concern school sustainability. In the case of performance-related pay criteria, it is essential to conclude that they should be objectively measured and linked to teachers' personal work effort. It is a positive sign that three of the most popular performance-related pay criteria used in Estonian schools are directly linked to the individual performance of teachers. However, as pupil academic performance is seen as an important outcome of Estonian general educational schools, teachers are often rewarded based on the current academic performance of pupils and the results in national examinations. The author of this dissertation points out that academic results are influenced by several factors in addition to the work of teachers (Hanushek, 1997). Therefore, criteria concerning pupil academic performance are not seen as the most objective for use in individual pay schemes.

Another interesting finding is that in the case of performance appraisal and performance-related pay, teacher participation in school development and management is evaluated and rewarded, but the active involvement of teachers in school management and development is not seen as an important school performance indicator. Therefore, the author of this dissertation questions the link between the school appraisal and remuneration aspects of performance management and school performance indicators. One of the reasons why it is difficult to believe that schools monitor their achievement on the basis of set performance indicators is that the criteria used to appraise the work of teachers and calculate performance-related pay are not in accord with the defined performance indicators. For example, indicators that appraise teachers on the basis of pupil academic performance are not among the ten most frequently used teacher performance appraisal criteria in Estonian general educational schools.



Furthermore, the two most frequently mentioned performance appraisal criteria – participation in school management (92%) and cooperation with parents (90.3%) – are more related to valuing teachers' activities and openness in guaranteeing the school's sustainability.

When analysing performance-related pay criteria, the picture is different. It is argued that pupil academic performance (both current academic performance and examination results) is popular for rewarding teacher performance (see Appendix 14). In the author's opinion, that may be unfair because pupil academic performance is not directly and exclusively influenced the efforts of teachers. Similarly, the empirical study in this dissertation provided additional proof that academic performance indicators are not valued very highly by teachers. The explanation behind these negative opinions is the fact that teachers are collegially responsible and the educational process takes years and is affected by the contribution of many teachers (Storey, 2000). Headmasters on the other hand are quite motivated to monitor the achievement of academic performance, as many parents choose the school for their children based on the annually published national examination charts. However, it is not possible to conclude from this research whether teachers are rewarded for pupil academic performance on a group or individual basis. If on a group basis then the problem is not so large.

The reason for noteworthy differences between the school performance indicators and performance appraisal criteria may be political. Internal evaluation has been compulsory in Estonian schools since 2010, and schools have started to turn considerable attention towards appraising the performance of both schools and teachers. Therefore, these criteria that have been taken as the basis for performance appraisal are rather new. Likewise, schools have been provided with support materials to help them develop internal evaluation systems in accordance with key performance indicators valued at the government level<sup>97</sup>. However, schools have not turned enough attention to revising their school performance indicators and integrating their school objectives, performance measures and the criteria used to evaluate the achievement of school goals. Similar results can be seen in the author's previous studies (Irs and Ploom, 2009), where during the analysis of internal evaluation reports, no relationships between the school's principal values and the learning process were found, the development of the school curriculum was weakly related to the evaluation of pupil development, personnel development and extra-curricular activities, and schools lacked the knowledge and skills to understand their performance indicators, and therefore, they were not able to make conclusions based on school performance data. Therefore, schools need to review their strategic documents and make sure they are in line with the changes taking place.

In summary, there are many studies offering proof that teacher pay would result in better pupil outcome (Loeb and Page, 2000; Kingdon and Teal, 2007; Figlio and Kenny, 2007; Atkinson et al., 2009). However, Hanushek and Rivkin

---

<sup>97</sup> See the key performance indicators at government level in subchapter 1.1.2., p. 26

(2007) conclude that general salary increases for teachers would be both expensive and ineffective. They emphasise that compensation and career advancement should be linked more closely to the teachers' ability to improve pupil performance. However, several studies have tried to find proof about the relationship between performance-related pay and school performance indicators with the aim of identifying the necessary information for deciding whether to implement performance-related pay or not. Although the author of this dissertation did not have any longitudinal data to analyse the long-run influence of performance-related pay, the data in this study made it possible to compare the schools that reward their teachers on the basis of performance with schools that do not. The results of the propositions about the relationships between implementing performance-related pay and school performance indicators are presented in Table 58.

**Table 58.** Validity of propositions 4a and 4b and a summary of the main findings<sup>98</sup>

<b>Results of testing the propositions</b>	
<b>Proposition 4a:</b> Schools that reward teachers on the basis of their performance have higher results in performance indicators that evaluate pupil academic performance.	<b>Validity:</b> Partly supported
<ul style="list-style-type: none"> <li>• The results of the <i>Independent Samples T-test</i> indicate higher results of performance indicators that evaluate pupil academic performance in schools that implement PRP: 1) in final examination results in primary schools (t-test 2.2, p=0.03); 2) the percentage of pupils continuing studies at the next school level in primary schools (t-test 4.56, p=0.00); 3) average national examination results in secondary schools (t-test 7.85, p=0.00); 4) percentage of pupils continuing studies at university in a state-funded student place in secondary schools (t-test 7.7, p=0.00);</li> <li>• <i>Correlation analysis</i> reflects statistically significant, albeit weak to moderate relationships between the implementation of PRP and pupil academic performance indicators (correlation coefficient varies from 0.06 to 0.25). Strongest relationships may be found between the implementation of PRP and average results of national examinations (r=0.24) and percentage of pupils continuing studies at university in a state-funded student place (r=0.25) in secondary schools.</li> <li>• Based on the <i>graphs</i>, some relationships between the implementation of PRP and average national examination results and the some relationships between the implementation of PRP and the percentage of pupils continuing studies at university in state-funded student places may be found in secondary schools located in the larger cities (Tallinn, Tartu, Pärnu and Narva). Secondary schools located in the larger cities that implement PRP experience higher results in national examination results (over 70 pints) and a higher percentage of pupils continuing studies at university in a state-funded student place (60–70%).</li> </ul>	
<b>Proposition 4b:</b> Schools that reward teachers on the basis of their performance have more teachers with the required qualifications.	<b>Validity:</b> Partly supported
<ul style="list-style-type: none"> <li>• The results of the <i>Independent Samples T-test</i> indicate higher results in terms of</li> </ul>	

<sup>98</sup> See the measuring tool for testing propositions 4a and 4b in Table 13, p. 113.

### Results of testing the propositions

performance indicators in attracting teachers to schools that reward teachers on the basis of their performance:

1) presence of teachers with the required qualifications in primary schools (t-test 7.22,  $p=0.00$ ); 2) presence of teachers with the required qualifications in secondary schools (t-test 3.46,  $p=0.00$ ).

- *Correlation analysis* reflects statistically significant, but weak relationships between the implementation of PRP and the presence of teachers with the required qualifications in schools: a) weak relationships (correlation coefficient 0.1) between the implementation of PRP and the presence of teachers with the required qualifications in primary schools.  
b) weak relationships (correlation coefficient 0.15) between the implementation of PRP and the presence of teachers with the required qualifications in secondary schools.

Note: PRP – performance-related pay

Source: author's calculations

The Estonian study provided empirical evidence of positive relationships between performance-related pay and school performance indicators, as the schools that rewarded teachers on the basis of their performance have slightly better pupil academic performance (e.g. average primary school final examination results, percentage of pupils continuing studies at the next school level (in secondary schools), average national examination results and percentage of pupils continuing studies at university in a state-funded student place). These relationships are weak to moderate. Although the study also indicated that both primary and secondary schools that implemented performance-related pay are better placed in terms of teachers on staff with the required qualifications, the correlation coefficients were rather weak. This has also been identified as a problem in other similar studies (Ballou and Podgursky, 1995; Hanushek, 1997; Loeb and Page, 2000). Likewise, despite the fact that statistical tests show that there are statistically significant relationships, the differences are not so notable when comparing the descriptive statistics.

The reason why the relationships between the implementation of performance-related pay and pupil academic performance are higher compared to the presence of teachers with the required qualifications may stem from the current practice implemented in Estonian general educational schools. As the analysis indicated, teachers in Estonian general educational schools are primarily rewarded based on pupil academic performance (see Appendix 11). Therefore, as pupil academic performance is rewarded, there is the possibility that teachers are motivated to train pupils to achieve higher academic performance. Bonuses for attracting qualified teachers, however, were not pointed out in the pedagogues' answers.

However, it must be noted that because of the lack of longitudinal data, the analysis raises the question of whether performance-related pay actually raises school performance or is it simply that performance-related pay tends to be

implemented in higher performing schools. The results showed that performance-related pay is primarily implemented in schools that are located in the larger cities – Tallinn, Tartu, Narva and Pärnu (Figure 20, p. 149). Therefore, the higher results in pupil academic performance may be the result of the socio-demographic background of the pupils in non-rural schools, but also because they have a better selection of pupils. However, in the author's opinion, the differences in pupil academic performance may not be caused by regional aspects, but by the state of the organisational culture in schools. For example, the study indicated that in schools where teacher achievement is valued highly, pedagogues have higher opinions of both performance appraisal and performance-related pay (see Table 23, p.127 and Table 43, p. 159). However, as positive opinions create a favourable intention to adopt<sup>99</sup> (Aladwani, 2001; Armenakis and Harris, 2002; Johnson *et al.*, 2006), those schools that have higher opinions of performance appraisal and performance-related pay are more likely to implement performance management.

#### **2.4.2. Managerial proposals for developing teacher performance appraisal and performance-related pay in Estonian general educational schools**

The research conducted in Estonian general educational schools provided useful information that also allows the author of this dissertation to make proposals for preparing the appraisal and remuneration aspects of performance management in Estonian general educational schools. Similarly, proposals for teacher performance appraisal and performance-related pay design and the selection for performance appraisal and performance-related pay criteria are also presented.

According to the framework for preparing schools for implementing teacher performance management (see Figure 7, p. 59), there are three important steps to the successful implementation of performance management – creating awareness, positive opinions and the positive intention to adopt. However, before the preparatory work, headmasters in Estonian general educational schools need to gather a complete understanding of the current situation in schools. For example, the result of the Estonian study about the statistically significantly higher opinions of the implementation of performance appraisal and performance-related pay among headmasters compared to teachers (see Table 15, p. 119) may indicate that headmasters do not have a complete understanding of the current situation and of the opinions of their teachers. Working with the teachers in order to map the current situation in schools is essential to identify the strengths, weaknesses, opportunities and threats for their school in order to obtain all necessary information for defining schools objectives, and upon which school performance appraisal and performance-related pay would be

---

<sup>99</sup> See the framework for preparing schools for implementing teacher performance management in Figure 7, p. 59.

founded. Similarly, mapping all knowledge makes it possible to gather opinions and possible sources of resistance concerning the implementation of performance appraisal and performance-related pay. To gather this information, a SWOT-analysis, satisfaction inquiries, group and individual interviews and round-table discussions could be conducted.

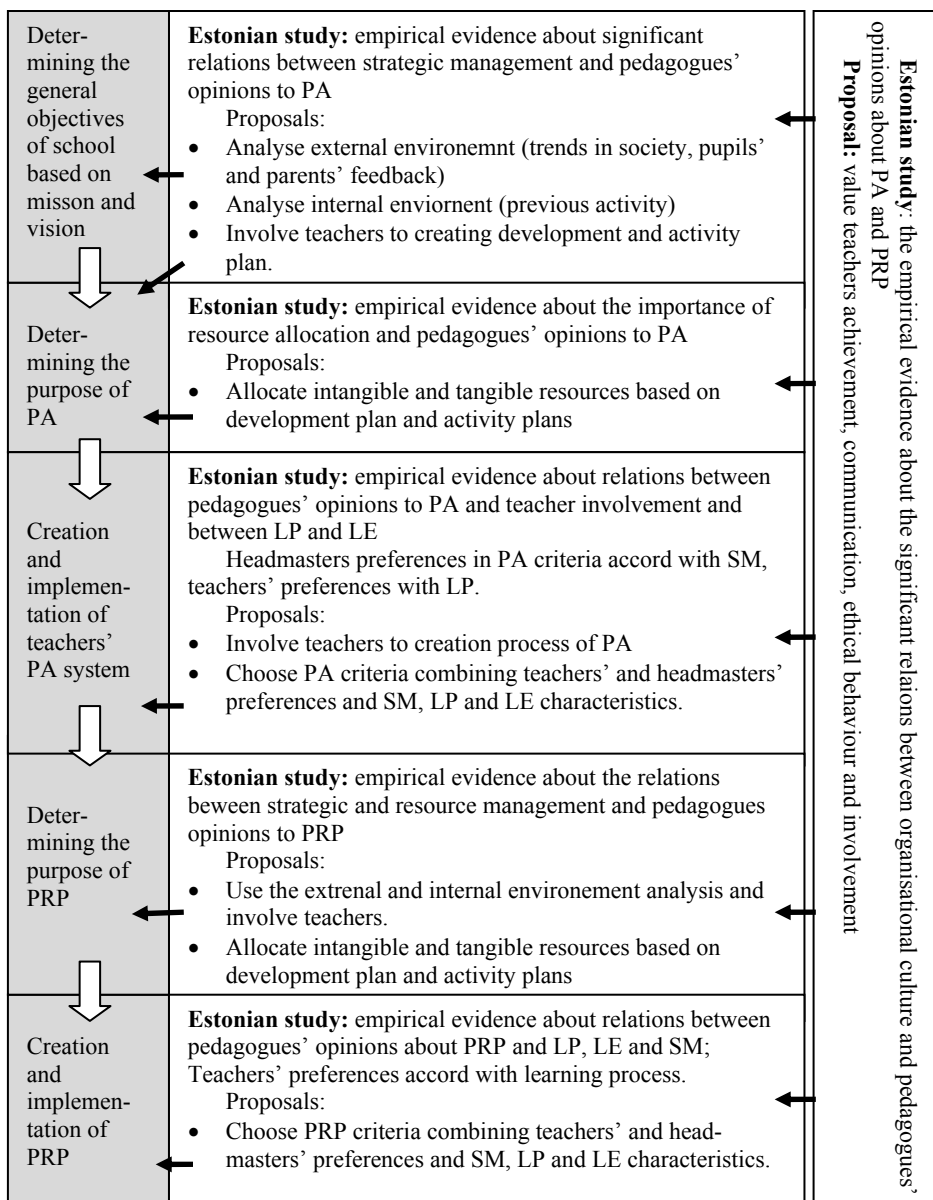
Firstly, school headmasters in Estonian general educational schools need to deal with creating an awareness response among teachers. For example, the Estonian study indicated that teachers are much less aware of the relationships between performance appraisal and performance-related pay compared to headmasters (see Table 36, p. 151). Similarly, the study showed that performance-related pay is seen more as a motivational tool for teachers than a tool for supporting schools in achieving their objectives (Table 35, p. 150). The study may also indicate some misinterpretations concerning performance-related pay. In situations where teacher's salaries are low, teachers are highly interested in changing the salary system without understanding the real outcome of the change. Teachers need to be aware that performance-related pay is implemented in light of key activities that constitute success for their school. Therefore, a lot of effort should be directed to raising teacher awareness about the appraisal and remuneration aspects of performance management, and about their principles and benefits. Headmasters can introduce performance appraisal and performance-related pay themselves or encourage teachers to participate in conferences related to performance management, workshops and if necessary, invite lecturers and practitioners to schools to share their experience both from Estonia and abroad. Indeed, if teachers have more specific questions that the headmaster cannot answer, then the headmaster should not be afraid to encourage the teachers to contact an authorised person from the government (Estonian Ministry of Education and Research) or similar organisation that supports schools during such changes. But headmasters should also be willing to offer teachers additional reading and guidance.

Creating awareness, positive opinions and the positive intention to adopt is carried out during the design of both teacher performance appraisal and performance-related pay. The findings about performance appraisal and performance-related pay design, and the proposals for solving those issues are presented in Figure 26. The current research also provided additional confirmation concerning the management theory that good and conscious management would benefit the organisation through committed and favourably disposed employees. This, however, makes it much easier to employ new management practices. Authors exploring change management (Aladwani, 2001, Johnson *et al.*, 2006) emphasise the importance of positive opinions in managing any change associated with the implementation of new management tools. Therefore, to implement performance appraisal and performance-related pay and enhance school performance using those tools, the quality of school strategic management, resource management, organisational culture needs to be emphasised.

To be more specific, the study showed that in order to create an accepted and fair performance appraisal and performance-related pay system, schools need to

determine their objectives based on the trends taking place in society and proper analysis of the previous activities within the school. However, in order to guarantee common opinions among teachers and headmasters in schools, which would lead to more balanced school development, teachers should be involved in school development and formulating action plans. When teachers have had an opportunity to participate in strategic management, they understand their role in the organisation. When teachers understand what is expected of them, they understand the aim of their work and there is less resistance to performance appraisal and performance-related pay. Similarly, involvement in strategic management creates positive opinions among teachers towards new management tools because they have an opportunity to design them based on their own needs and expectations.

In addition to strategic management, resource management is essential in performance appraisal and performance-related pay design, as it provides the necessary resource allocation for implementing strategic aims and rewarding teachers for their excellent performance in achieving the school's objectives. It is very important that school resources be allocated based on each school's development plan – the key activities in achieving its objectives should be supported with the necessary personnel and financial resources.



**Figure 26.** The evidence from the Estonian study and proposals for developing teacher performance appraisal and performance-related pay

Note: PA – performance appraisal; PRP – performance-related pay; SM – school management, LP – learning process; LE – learning environment

Source: compiled by the author based on Figure 8, p.67, Figure 13, p.82 and the result of the study (subchapters 2.2–2.3)

Otherwise, the employees may not understand what kind of behaviour is expected of them. However, there is another concern with school resource

management as well. Since school headmasters are provided considerable autonomy in managing their budget (see Appendix 5), then it is important that they continuously analyse school resources – both intangible and tangible. Effective resource management provides additional confidence about school resources. For example, the Estonian study indicated that one of the reasons why performance-related pay is not implemented in Estonian general educational schools is that school headmasters fear that they do not have enough monetary resources to reward teachers on the basis of their performance. But on the contrary, implementing performance-related pay can save money because it does not have to be spread so widely (Chamberlin *et al.*, 2004). However, this assumes good planning of resources. Therefore, the higher the quality of resource analysis, the more predictable the future costs and revenues, and therefore, the opinions towards performance-related pay can also increase.

But making plans and analysing resources does not help the organisation to achieve its goals. Therefore, the human factor needs to be valued more highly. Headmasters should first create a performance-oriented atmosphere within the organisation conducive to implementing performance management in Estonian general educational schools. Valuing teachers' achievements is essential in creating a performance-oriented culture in the organisation. In addition, participation in school development (participation in development projects etc.) and management would encourage teachers to achieve the general objectives of the school. However, at a time when performance-oriented culture is just being developed, a lot of attention should be turned to creating an open atmosphere in support of it. In order to achieve that, headmasters should focus on developing communication with teachers and developing and following ethical norms.

Creating positive opinions assumes the involvement of teachers in the process of developing performance management. The study in this dissertation provided empirical evidence about the importance of involvement. Therefore, in order to develop an accepted teacher performance appraisal, teachers should be involved in the process of designing performance appraisal. Teacher involvement may minimise any difficulties with implementing performance management that emanate from the various preferences of different teachers concerning both performance appraisal and performance-related pay criteria. School headmasters have to ascertain the final objectives of their schools, but it is essential to do this in cooperation with teachers and including their proposals. This is necessary as teachers have the most important role in shaping the learning process and environment. However, teachers' activities should be emphasised in order to achieve a balanced school development. The characteristics of the learning process and environment become especially important when selecting performance appraisal and performance-related pay criteria. The current study indicated, however, that while teachers' preferences in selecting performance appraisal criteria are related to the learning process, headmasters value teachers' activities related to school management more. The proposals for selecting the criteria for teacher performance appraisal are presented in Table 59.



**Table 59.** Recommended teacher performance appraisal criteria

<b>Performance appraisal criteria related to school management</b>	
<ul style="list-style-type: none"> <li>• Participation in the school development plan</li> <li>• Participation in designing the school action plan</li> <li>• Cooperation with parents</li> <li>• Participation in creating the school social and cultural environment (incl. cooperation with colleagues)</li> <li>• Participating in human resource development and instructing young teachers</li> <li>• Involvement in school development and innovation (participation in projects)</li> </ul>	
<b>Performance appraisal criteria related to teachers' activities</b>	
<b>Learning process</b>	<b>Learning environment</b>
<ul style="list-style-type: none"> <li>• Teaching based on the analysis of individual pupil academic performance</li> <li>• Teaching based on the analysis of individual pupil development in general skills</li> <li>• Teaching pupils things necessary for life</li> <li>• Teaching pupils based on their individual abilities</li> <li>• Participation in developing support systems</li> <li>• Developing pupil interest and talent</li> <li>• Teaching-methodological work</li> </ul>	<ul style="list-style-type: none"> <li>• Encouraging pupils to give their best</li> <li>• Fair treatment of pupils</li> <li>• Creating an environment where pupils understand what is expected of them</li> <li>• Involving pupils in organising school life</li> <li>• Creating good relationships and trust with pupils (pupils can always turn to teachers with his/her problem)</li> <li>• Communication with pupils</li> <li>• Pupils follow discipline in the classroom</li> </ul>

Source: compiled by the author based on Table 33, p. 144, Figure 23, p. 179, Figure 25, p. 187

However, the main idea behind selecting those criteria stems from combining teachers' and headmasters' preferences and the characteristics of school management, the learning process and the learning environment. Therefore, while developing teacher performance appraisal, not only should their work in developing the learning process be valued, but also their effort in developing the learning environment and school management. Participation in school management has become relevant because of the changes taking place in the education sector, where schools are rather seen as business organisations. Therefore, teachers have an important role as the members of the organisation who contribute to overall school performance. Performance appraisal criteria should encourage teachers to design strategic views, organisational culture, personnel development and raise the level of the school's innovativeness.

During the work in the classroom, performance appraisal criteria should first of all encourage teachers to raise pupil motivation and interest in learning. Therefore, it is recommended to appraise teachers' teaching work based on the analysis of pupil progress, capabilities, interest and talent. Similarly, the work

of teachers in developing teaching-methodology should be emphasised. Despite the difficulties in measuring the performance of teachers in developing the learning process, it is an important aspect of teachers' activities because it influences how pupils cope in the learning process. However, while measuring the performance of teachers in developing the learning environment, satisfaction inquiries conducted with pupils and parents should also be taken into consideration.

As with the selection of performance appraisal criteria, the most difficult part in designing performance-related pay is selecting the criteria that form the basis for how teachers are rewarded. The Estonian study indicated that before developing performance-related pay, any shortcomings concerning performance appraisal should be resolved (see Table 36, p. 151). Based on these research results the author aimed to provide her perspective on performance-related pay in Estonian general educational schools (see Table 60). The framework for developing practical proposals for choosing performance-related pay criteria is presented in Table 9, p. 90.

In the author's opinion, the salary system should encourage teachers' professional development, value teachers' achievements and teachers' participation in school management and development. However, salaries for teachers should not be tied to or focused on workload. If teachers are rewarded primarily on the basis of workload, they may do a lot more overtime, which results in a decrease in teaching quality and the learning process. In addition, the author notes that it is useful for schools to develop both individual and group-based rewards. However, more attention should be focused on developing the most difficult part of the performance-related pay system – the regular individual bonus system for teachers. These activities should be directly linked to the teachers' individual work and be objectively measured. The Estonian study indicated that teachers' preferences in terms of performance-related pay criteria were mostly related to their direct efforts in the classroom. However, concentrating performance-related pay exclusively on teachers' work in developing the learning process is one-sided because, as the Estonian study indicated, teachers' participation in school management and their efforts in developing the learning environment are seen as important as well.

The regular individual performance of teachers should incorporate outstanding outcomes in teaching-methodological work (study materials, study means, teaching techniques) that create learning interest among pupils. Teaching-methodical work was highly valued both by headmasters and teachers. The feedback about study materials may be gathered from pupils and parents (satisfaction inquiries, development interviews), class observations, teachers self-evaluation reports and from e-school. One good thing is that teaching-methodological work is highly individual, and is therefore suited to an individual pay scheme. However, the author recommends caution with class observations because teachers do not like their faults being highlighted by outsiders whose only role is to conduct sample inspections, which are less accurate and more tendentious than long-term assessments (DfEE, 2000).

**Table 60.** Proposals for performance-related pay criteria for rewarding teacher for their work in Estonian general educational schools

<b>Performance-related pay criteria in Estonian general educational schools</b>		
Regular bonus	Group	Individual
	<p><b>Bonus for completing tasks and objectives set for groups:</b></p> <ul style="list-style-type: none"> <li>a) Rewards for change agents</li> <li>b) Rewards for other project teams.</li> </ul>	<p><b>Teachers' activities and working performance:</b></p> <ul style="list-style-type: none"> <li>a) Teacher participation in school development (projects funded by EU, events organised between schools, representing school, performances and presentations at seminars etc.).</li> <li>b) Teaching-methodological work (study materials, study means, teaching techniques)</li> <li>c) Teachers' activities in helping pupils with low academic performance to gain knowledge in the subjects taught and helping them to pass.</li> <li>d) Teachers' work with pupils with special educational needs</li> <li>e) Teachers' activities in dealing with talented pupils.</li> <li>f) Instruction in extra-curricular activities</li> </ul> <p><b>Teachers' competence (knowledge, skills, experience):</b></p> <ul style="list-style-type: none"> <li>a) teachers owning the required qualifications</li> </ul>
Incentive bonus (one-off payment)	<p><b>Gain-sharing:</b></p> <ul style="list-style-type: none"> <li>a) Dividing the incentive or award money between teachers collectively responsible for school achievement in competitions etc.</li> </ul> <p><b>School incentive bonus shared between teachers:</b></p> <ul style="list-style-type: none"> <li>a) Higher pupil academic performance.</li> </ul>	<p><b>Incentive for overtime work:</b></p> <ul style="list-style-type: none"> <li>a) Instructing junior teachers</li> <li>b) Participation in school strategic management (compiling a development plan and action plan).</li> <li>c) Incentives for extra workload in extraordinary circumstances</li> </ul> <p><b>Incentive for activities outside lessons:</b></p> <ul style="list-style-type: none"> <li>a) Instructions for events, competitions and other activities outside lessons.</li> </ul> <p><b>Incentive for performance which exceeds standards:</b></p> <ul style="list-style-type: none"> <li>a) Pupil results in olympiads, exhibitions and competitions.</li> <li>b) National, regional and local awards for teachers.</li> </ul> <p><b>Incentive for creating learning environment</b></p> <ul style="list-style-type: none"> <li>a) Teachers' activities in encouraging pupils to give their best</li> </ul>

Source: compiled by the author based on Figure 23, p. 179, Figure 25, p. 187 and Table 52, p. 172; the results of the case studies (see Appendix 8)

The regular individual performance of teachers should incorporate outstanding outcomes in teaching-methodological work (study materials, study means,

teaching techniques) that create learning interest among pupils. Teaching-methodical work was highly valued both by headmasters and teachers. The feedback about study materials may be gathered from pupils and parents (satisfaction inquiries, development interviews), class observations, teachers self-evaluation reports and from e-school. One good thing is that teaching-methodological work is highly individual, and is therefore suited to an individual pay scheme. However, the author recommends caution with class observations because teachers do not like their faults being highlighted by outsiders whose only role is to conduct sample inspections, which are less accurate and more tendentious than long-term assessments (DfEE, 2000).

Other important activities in achieving the school objectives and motivating teachers include teachers' activities in helping pupils with low academic performance to gain knowledge in subjects taught and help them pass, teachers' work with pupils with special educational needs and teachers' activities in dealing with talented pupils. So far, the problem in Estonian general educational schools is that too much value is placed on school performance in the national examinations (see Figure 19, p. 142 and Appendix 9), which results in teachers concentrating too much on preparing pupils for these examinations. Therefore, pupils with lower performance receive less attention, teachers even sometimes recommend these pupils not attempt the more difficult examinations at all. Similarly, there might be very talented pupils in a class who need extra exercises and study materials to satisfy their interest. Otherwise they might become bored and even disturb others in the classroom. Both of these situations are unfavourable in the context of school performance. Teachers' activities in dealing with low-performance and talented pupils, and pupils with special educational needs are not so difficult to evaluate because the teachers' council<sup>100</sup> has information about pupil progress, regress or problems, and in addition, the schools monitor pupil progress via development interviews implemented with pupils and their parents. Other indicators for measuring the progress of low-performance pupils and pupils with special educational needs includes, for example, drop-out rates. As mentioned previously, creating an interest in learning and being active is also very important. This is especially relevant in the case of children who come from more problematic families. Therefore, teachers who contribute their spare time to organising extra-curricular activities should be rewarded regularly as well. This effort can be easily measured in terms of the working hours introducing extra-curricular activities. However, a regular individual bonus should not only be directed towards teachers' activities, but also teachers' competence. For example, the presence of teachers with the required qualifications is a problem in some Estonian general educational schools. That also determines the quality of teaching. Therefore, in the author's opinion, schools should motivate their teachers to educate themselves and gain knowledge on the topics they teach.

---

<sup>100</sup> Teacher council is a board of teachers on the school level.

In addition to regular individual bonuses, teachers should be offered incentives as well. Incentives, of course, acknowledge a one-off effort, and does not cover on-going activities. Over time work is in this category. However, it is important to note that regular incentives for over time is not sustainable in terms of school development, as teachers may do too much over time, which leads to stressed teachers and a worsening of the quality of the teaching. Incentives may involve, for example, instructing junior teachers, extra workload in extraordinary circumstances and participation in school strategic management. The author emphasises participation in strategic management as it allows teachers to understand their role in the organisation and helps teachers to adjust to a performance-oriented culture. Instructing young teachers is important in guaranteeing school sustainability. Similarly, teachers' efforts in organising events, competitions and so on, outside the classroom should also be acknowledged. All these activities are easy to measure in terms of working hours.

However, individual incentive bonuses are a good way to acknowledge and value performance which exceeds the standard. The research indicated that it is important that the school administration value teachers' achievements. For example, good results in olympiads, exhibitions and competitions and rewards given for teachers at the national, regional and local level need more attention and acknowledgement. Despite the fact that the characteristics of the learning environment are more difficult to assess, incentive bonuses should be offered to teachers to encourage pupils. Emphasising the learning environment recognises the role of a good atmosphere in creating an interest in learning and supporting the learning process. This activity can be evaluated based on satisfaction inquiries.

School headmasters should encourage cooperation between teachers as well. Therefore, offering group bonuses would be beneficial. Many teachers commented in the questionnaire in the Estonian study that performance-related pay is not suitable for the teaching profession, as it creates competition between them. That is not good for the pupils as their education is dependent on several teachers' effort and cooperation (Storey, 2000). However, that is the reason why schools should implement group bonuses in addition to individual bonuses. A group bonus emphasises cooperation, and therefore, motivates teachers to work with each other. A regular group bonus is a good tool for motivating groups to complete tasks and objectives set them. While discussing the management of change associated with performance management, change agents would be a good target group for such bonuses. During the development and implementation of performance appraisal and performance-related pay, headmasters may perform the role of change agents who deal with making the changes happen within the organisation as smoothly as possible. However, headmasters have an opportunity to delegate this task to teachers as well. However, before involving change agents from within the organisation, it is important to remember that they should have the required knowledge to execute the changes. Therefore, the teachers involved in the change process as change agents should be completely aware of performance management and its principles. Training should be

offered if necessary. However, to value change agents, they should be rewarded for their effort and motivated to tell good stories about the gains from performance management. The alternative to involving change agents from within the school is bringing respected outsiders into the school to talk about their experience. However, these outsiders should be opinion leaders and have an important impact on the teachers. As with change agents, other project teams involved in different important fields should be rewarded on a group basis as well. However, this kind of reward can only apply to the duration of the project and until the goals have been achieved.

As the individual performance of teachers in developing pupil academic performance is hard to distinguish, a bonus for achieving high academic performance should be offered on a group rather than an individual basis. Teachers participating in this research admitted that in their opinion academic performance is not the best performance indicator for evaluating their individual performance (Figure 19, p. 142 and Appendix 8 and 9). This is also seen as being dependent on the work of other teachers, family and peers (Rivkin *et al.*, 2005). Offering an incentive, not a regular bonus for improving pupil academic performance would increase the problem that too much attention is placed on academic performance, which is not the overall objective of educational institutions. One advantage of offering teachers group bonuses for improving pupil academic performance is the rising interest among teachers in co-operating in the learning process. Similarly, as teachers in Estonian general educational schools are primarily rewarded on the basis of pupil results in national examinations (see Appendix 11), this is not fair for those teachers who teach subjects where national examinations are not held (e.g. music, industrial arts). Group incentive bonuses for academic performance can also facilitate the integration of the different subjects taught in schools.

The approach developed by the author does not claim to be suitable for every school in the Estonian education sector. Every school has to develop its own reward system taking into consideration its unique qualities and of course, involving all important parties influenced by that pay system.

While selecting the right timing for implementing performance appraisal and performance-related pay, school headmasters should monitor when the awareness, opinions and intentions to adopt have reached a favourable level before commencing the implementation phase. The current study indicates that teachers have relatively high opinions of performance-related pay. According to the theory, favourable opinions may indicate that it may be a good moment to start implementing. As human behaviour is directed towards the satisfaction of needs and these needs drive employees in organisational change (Alas and Vadi, 2006), then high opinions of performance-related pay would be a good basis for implementing the change in the teaching salary system because it makes the changes easier to implement. In addition, Marcinkoniene and Kekäle (2007) recommend starting the change in areas where the new assumptions are likely to function or bring quick successes. However, despite the fact that the opinions about performance-related pay were relatively high (see Table 34, p. 147), the

current study did not confirm whether these high expectations of performance-related pay are due to teachers hoping to be rewarded on the basis of their performance or because teachers have high hopes of a salary increase. As teaching salaries in Estonian general educational schools are rather low, teachers may have overly high expectations about benefiting from changes to the salary system.

## CONCLUSIONS

Accountability, autonomy and choice play a leading role in recent school reforms in many countries. This, however, has resulted in the need for schools to be more productive and raise their performance. To achieve this, several private sector management techniques are being incorporated into the education sector. For example, performance management, including performance appraisal and performance-related pay are being incorporated into schools. Practices from abroad indicate that schools who have implemented performance management have achieved a commitment to the attainment and welfare of pupils at their school, an appreciation of the crucial role that teachers play, an atmosphere of trust between teacher and team leader, encouragement to share good practice and the integration of performance management within the overall approach to managing the school. However, the implementation of private sector management practices involves problems as well. Furthermore, criticisms and a lack of understanding about performance appraisal and performance-related pay among pedagogues cause caution and scepticism. For instance, teacher performance appraisal is often seen as a means of control rather than a tool for developing teachers and improving their performance. The fear of the use of performance-related pay is related to the belief that an objective evaluation system is difficult to create.

However, in order to guarantee that performance appraisal and performance-related pay is adopted successfully in schools, school headmasters should be well aware of the managerial aspects that influence the design and implementation of these management tools. In addition, as the educational process primarily consists of the activities of teachers, then the ability of teachers in managing the learning process and learning environment should be taken into consideration. Therefore, the difficulty in developing both performance appraisal and performance-related pay in schools lies in developing those systems to create synergy between school management and teachers' activities, and therefore, balanced school development.

The current dissertation concentrates on the opinions of pedagogues in Estonian general educational schools. Information about pedagogues' opinions makes it possible to understand what causes dissatisfaction among pedagogues while implementing the appraisal and remuneration aspects of performance management, how to overcome these causes and what steps are reasonable when designing and launching performance appraisal and performance-related pay in Estonian general educational schools. This dissertation aims to provide proposals for developing teacher performance appraisal and remuneration aspects of performance management in Estonian general educational schools.



## **Theoretical background for developing the teacher appraisal and remuneration aspects of performance management in schools**

Performance management is described as a management tool for improving organisational performance through concentrating on the achievement of the organisation's strategic objectives. The author concentrates on the appraisal and remuneration aspects of performance management. The author defines performance management as a tool for achieving the objectives of an organisation through monitoring performance and goal achievement and stimulating performance. It is nevertheless essential to emphasise that the details of performance management varies considerably. As performance management is very difficult to define, scholars have often described it on the basis of the processes that take place during it.

The author defines performance appraisal as a tool for monitoring the individual performance of an employee in achieving the objectives of an organisation. In the opinion of the author, performance-related pay is a monetary tool for achieving the goals of the organisation through motivating employees to develop and improve their performance both as individuals and in teams. Therefore, in addition to achieving the tasks set for the employees, the definition also emphasises personal and professional development and cooperative effort among employees in raising the performance of the organisation.

As performance management literally means managing performance, it is essential to define the term performance. As the current dissertation concentrates on the education sector, the author focuses on school performance. A school's task is to produce young people that are creative, multifaceted, socially mature, reliable, conscious of their objectives and achievement-oriented in different fields of life, such as being a partner in personal life, a culture bearer and developer, an employer in different occupations and roles and a person responsible for guaranteeing the sustainability of society and the natural environment. Therefore, the objectives of school are multifaceted and broad, which makes evaluating success difficult. However, as there is too little agreement on the performance or goals of education, the relationship between the actions of teachers and the learning of pupils is too complex and difficult to describe.

Nevertheless, several empirical studies provide additional proof that teachers' activities and school management have an influence on school performance. Evidence about the importance of teachers' activities may be found in the teacher effectiveness model (Department of Education, 2000), which is the basis of the education compensation policy in England. This model identified three main characteristics within teachers' control that significantly influence pupil progress: teaching skills, professional characteristics and the learning environment. Based on these three attributes, it is possible to distinguish effective from less effective teachers, and therefore, it is recommended that the model of teacher effectiveness be used while appraising and rewarding the performance of teachers. However, the author of this dissertation prefers to view

school performance in broader terms, believing that good school management impacts the progress made by the school as do the activities of the teachers. Combining an understanding of the activities of teachers and school management and background information collected on best practices in executing performance management, performance appraisal and performance-related pay from abroad and the current situation in Estonia, the author compiled a conceptual model for preparing the research, the research questionnaire, executing the study and analysing the performance of schools. The model is called “the key characteristics of school performance” and it describes how school performance is determined through school management and teachers’ activities.

In addition, evaluating the opinions of pedagogues is central to this study because people will act in ways that are in line with their opinions. Therefore, positive opinions about performance appraisal and performance-related pay create a positive intention to adopt and implement performance management, which is also assumed to have a positive impact on school performance. The current dissertation also seeks evidence on whether schools implementing performance-related pay have higher results in performance indicators that evaluate the academic performance of pupils and the presence of teachers with the required qualifications.

As school management plays an important role in designing school performance, finding the relationships between characteristics of school management and the opinions of pedagogues about performance appraisal and performance-related pay gives valuable information about which school managerial aspects need to be taken into consideration when designing performance appraisal and performance-related pay. The components of performance management: performance planning; reviewing and appraising performance; recognising and rewarding performance; and coaching and feedback are related to strategic management, resource management and organisational culture of schools. Similarly, these school managerial aspects are tightly related to both performance appraisal and performance-related pay design. For example, strategic management is topical in defining the objectives of school, which on the other hand is essential in defining the aims of the performance appraisal and performance-related pay being developed in school. Resource management gives the necessary resource allocation (both tangible and intangible resources) and organisational culture creates the essential context for performance management in school.

Therefore, in order to understand, which aspects of strategic management, resource management and organisational culture should be taken into consideration in performance appraisal and performance-related pay design, it is essential to ascertain the relationships between those characteristics of school management and the opinions of pedagogues about performance appraisal and performance-related pay. Special attention is turned to teacher involvement as the research on performance management has showed significant influence of teacher involvement to performance management implemented in schools. To conclude, the evidence about those relationships allows developing proposals

for creating positive awareness, opinions and adoption intension of performance management during the performance appraisal and performance-related pay design.

In addition this dissertation purposed to provide proposals for developing the criteria for evaluating and rewarding the performance of teachers. As the individual performance of teachers is related to creating learning process and learning environment, then while developing a teacher performance appraisal system that aims to evaluate the individual performance of teachers, the activities in developing the learning process and learning environment should be considered more carefully. Those activities become topical in performance-related pay as well, especially when developing the individual based bonus. Therefore, during this study relationships between the characteristics of school management and the activity of teachers and the opinions of pedagogues about performance appraisal and performance-related pay are being discovered. As finding the synergy between school management and the activity of teachers is relevant in balanced school development, then the preferences of teachers and headmasters in selecting performance appraisal and performance-related pay criteria are discovered and compared. As headmasters are accountable for government, who has defined the key performance indicators of schools on the governmental level, then it is assumed that headmasters are keener on achieving those key performance indicators. However, this is hazardous, as the general key performance indicators do not allow schools to take their peculiarities fully into consideration. Therefore, the study determines on what performance indicators is school performance defined and whether teacher performance appraisal and performance-related pay systems support the achievement of those performance indicators. All this allows bringing out managerial proposals for school managers for selecting the appraisal and performance-related pay criteria.

## **The data and research methodology**

Research work implemented for this dissertation was held during 2007–2010. The questionnaire of the study consisted of both school management questions (implementation of schools' strategic management, resource management, organisational culture and implementation of performance appraisal and performance-related pay) and questions related to the activities of teachers (learning and teaching process). In addition, the questionnaire involved section about school performance indicators and general data about the pedagogues (gender, occupational level, qualification, age, pedagogical experience, working experience, workload). Schools' characteristics were taken from the database of Estonian Educational Information System.

The complete sample of this study consisted of all Estonian general educational schools that teach children in the 9th grade (children of the age of 15–16) and 10th grade (children of the age of 16–17) and the headmasters, who manage those schools. In total, 2,165 teachers teaching in the 9th and 10th grade and

298 headmasters participated in this study. Therefore, a total rate of response was 37.5% in case of teachers and 61.2% in case of headmasters. The structure of the final sample of the study accords to the structure of the complete sample with the respect to gender and age, and pedagogical experience which allows making generalisations about the complete sample.

The research enabled to gather both quantitative and qualitative data about the opinions of pedagogues in Estonian general educational schools. The quantitative data is multifaceted and allows making proposals for both performance appraisal and performance-related pay design and implementation. The author collected quantitative data about the opinions in 5-point scale related to school strategic management, resource management, organisational culture and opinions about performance appraisal and performance-related pay implemented in Estonian general educational schools (the opinions of pedagogues, sample size 2,463). In addition the author has quantitative data about the answers of teachers about their involvement to performance appraisal design and opinions about performance appraisal implemented in Estonian general educational schools (sample size 2,165). The quantitative data is supported with the qualitative data about the practice of performance appraisal and performance-related pay in Estonian educational schools. This was gathered during the case studies implemented in three Estonian general educational schools. The author has qualitative data about the school performance indicators of 298 schools as well, giving valuable information about the school performance aspects valued by Estonian general educational schools. These data are useful as it allows to ascertain the important managerial aspects of developing performance appraisal and performance-related pay in Estonian general educational schools.

In addition to managerial aspects, the research enabled to gather data for selecting the criteria for performance appraisal and performance-related pay of teachers. The author has quantitative data about the opinions of pedagogues in 5-point scale about learning process and learning environment implemented in studied schools and the opinions about the implementation of performance appraisal and performance-related pay (sample size 2,463). In addition, the quantitative data about the opinions of pedagogues about performance appraisal and performance appraisal criteria provided additional information about the preferences of learning process, learning environment and school management aspects that need to be considered while selecting performance appraisal and performance-related pay criteria. Quantitative data is supported with the qualitative data. For example during this research, the author gathered qualitative answers about school performance indicators (3,450 answers of pedagogues in total) and open answers about performance-related pay used in studied schools (1,388 open answers about performance-related pay criteria). In addition, the case studies performed in three Estonian general educational schools allow gathering more specific data about the current practices about the selection performance-related pay criteria used in schools for rewarding the performance of teachers.

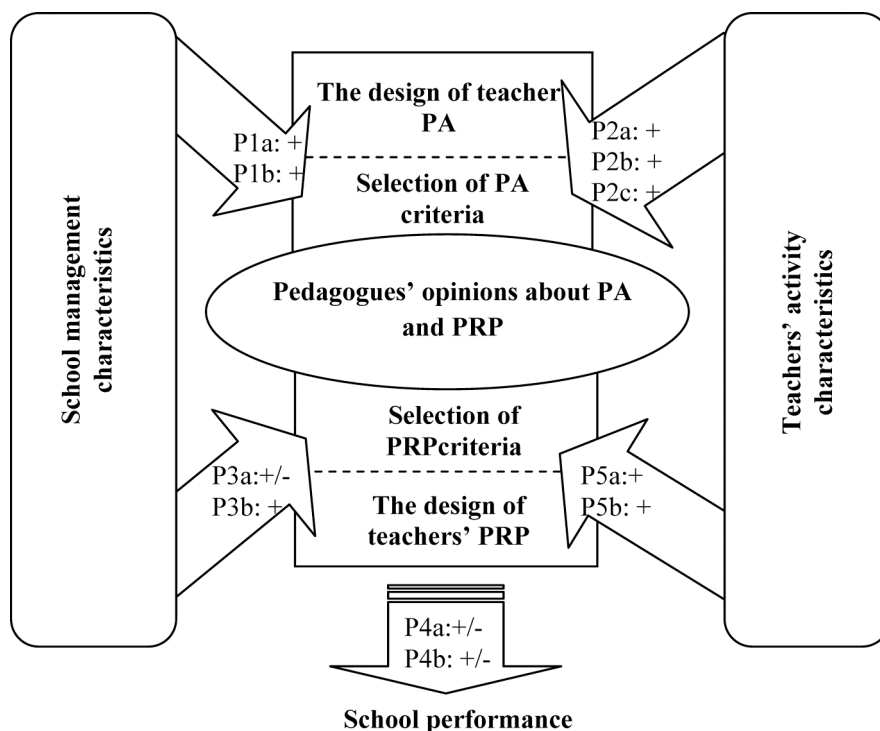
To ascertain, which characteristics of school management and the activities of teachers are related to the opinions of pedagogues about performance

appraisal and performance-related pay implemented in their schools, the correlation analysis is conducted (Spearman correlation). To find additional evidence whether those characteristics of school management and activities of teachers create differences in pedagogues' opinions between groups, a sample comparison (Mann-Whitney U-test) and descriptive statistics were calculated. Both correlation analysis and sample comparisons (Mann-Whitney U-test) are run in order to identify evidence about whether teacher involvement in performance appraisal design is related to them having positive opinions about the performance appraisal implemented in their schools, and identify the differences between the opinions of teachers who have been involved and those who have not. In order to gather additional evidence from case studies, transcriptions of the case studies are analysed using a priori and grounded coding. Additional factor and regression analysis conducted with these data by the author that are reflected in the project report (Türk *et al.*, 2011). The aforementioned analysis allows making practical proposals for developing a teacher performance appraisal and performance-related pay scheme.

### **Testing the propositions and their validity**

The results of testing the propositions are presented in Figure 27. The first group of propositions, related to school management issues concerning opinions about performance appraisal, were supported showing statistically significant and positive relationships between the characteristics of school management and the opinions of pedagogues about the performance appraisal system implemented in their school. In addition, the results indicated the importance of involving teachers in the creation of the performance appraisal system in schools, as the relationships between teacher involvement and teachers' opinions of the performance appraisal implemented in their school were statistically significant and relatively strong.

All the propositions in the second group, about performance appraisal criteria, were also supported. Therefore, the results indicated positive relationships between the learning process, learning environment and the opinions of pedagogues about the performance appraisal system implemented in their school, showing the importance of the learning process and learning environment in evaluating the performance of teachers. In measuring school performance, however, the academic performance of pupils is the principal indicator used. The study also showed that the preferences of teachers in selecting teacher performance appraisal criteria differ from the preferences of headmasters. Teachers prefer appraisal criteria that measure their activity in managing the learning process and learning environment, while headmasters value criteria related to school management.



**Figure 27.** Framework and propositions for the empirical study of teacher performance appraisal and performance-related pay in Estonian general educational schools and the validity of the tested propositions

Note: PA – performance appraisal; PRP – performance-related pay; P – proposition or proposition group; P1: school management to do with opinions about PA; P2: PA criteria; P3: school management issues to do with opinions about PRP; P4: relationship between PRP and school performance; P5: PRP criteria; Confirmed propositions are given a “+” sign; partially confirmed propositions are marked with “+/-”

Source: compiled by the author

The third group of propositions was about school management issues concerning opinions of performance-related pay. Firstly, the proposition concerning the relationships between the opinions of pedagogues about performance appraisal and the opinions of pedagogues about performance-related pay was partly supported because the relationships were moderate to relatively weak. However, strategic management, resource management and organisational culture are positively related to pedagogues’ opinions about the performance-related pay implemented in their schools.

The results of the fourth group of propositions indicated statistically significant albeit slightly unclear evidence that implementing performance-related pay would result in greater numbers of teachers with the required qualifications and higher pupil academic performance. Testing the fifth group of propositions about performance-related pay criteria showed statistically significant and positive relationships between the activities of teachers (the learning process and

learning environment) and the opinions of pedagogues about performance-related pay, and therefore, both of these aspects need to be taken into consideration in selecting criteria for rewarding teachers for their performance. The study also indicated that teachers prefer criteria that evaluate their individual performance in the classroom.

## **Generalisations of findings**

The present study provided additional confirmation concerning the management theory that good and conscious management benefits the organisation through committed and favourably disposed employees. Therefore, in order to employ new management practices more smoothly, aspects of school management should be taken into consideration. For example, the current study provided empirical evidence that strategic management, resource management and organisational culture influence the opinions of pedagogues about the performance appraisal and performance-related pay implemented in their schools. Therefore, well-organised strategic management, resource management and organisational culture are important in performance appraisal and performance-related pay design, as it helps develop awareness, positive opinions and intention to adopt.

To be more specific, the present study emphasised the role of strategic management because it provides the necessary framework and input for defining school objectives as a result of planning, and therefore, also forms the basis for performance appraisal and performance-related pay design. Schools should always consider the changes taking place both inside and outside the organisation when setting long and short-term objectives. Planning should also be the basis for determining school performance indicators, and the performance management system should be developed in light of those indicators. If the school performance indicators do not match the performance appraisal and performance-related pay then the system may fail to enhance school performance as teachers will not be motivated to achieve the goals set in the strategic plan. Instead, they will be motivated to satisfy the objectives set in the reward system or the appraisal system.

The study indicated that in order to develop a well-functioning performance management system, effective resource management is essential because it provides additional confidence about the resources and the demand for resources becomes more predictable. This is necessary in the context of implementing performance-related pay. For example, the Estonian study indicated that one of the reasons why performance-related pay is not implemented in Estonian general educational schools is that school headmasters fear they do not have enough monetary resources to reward teachers on the basis of performance. On the contrary, implementing performance-related pay makes it possible to save money because finances do not have to be spread so widely and it is

possible to concentrate on the most important activities to guarantee success for schools.

Finally, in the development of the appraisal and remuneration aspects of performance management, organisational culture creates a performance-oriented and supportive atmosphere for performance management in schools through valuing teacher performance, developing good communication and sharing ethical norms within the school. The findings of the present study emphasise the importance of good cooperation between school headmasters and teachers while implementing new management tools. Therefore, it is necessary to involve teachers in the design of performance appraisal and performance-related pay. However, positive opinions of performance appraisal create positive opinions of performance-related pay as well. Therefore, headmasters involving teachers in the process of creating teacher performance appraisal may be the key to a successful implementation of both performance appraisal and performance-related pay. When teachers are involved, they understand their particular role in the organisation, what is expected of them and that they are being valued within the organisation.

Another contribution of this research concerned selecting the criteria for performance appraisal and performance-related pay. The Estonian study indicated that headmasters' preferred appraisal criteria are those linked to school management, while teachers, on the other hand, prefer criteria related to their work in developing the learning process. However, the study also indicated the importance of teachers' work in developing the learning environment, as this plays an important role in supporting the learning process and creating an interest in learning. Therefore, quality teacher performance appraisal that is also aimed at the balanced development of the school, should combine criteria related to the learning process, the learning environment and school management.

Likewise, the study provided empirical evidence that teachers believe that schools need to guarantee that reward systems are linked as directly as possible to the teachers' individual achievements. However, performance-related pay should not be viewed so narrowly, as it should motivate the teachers to develop and improve their work both as individuals and in teams. Therefore, performance-related pay is also a tool to encourage cooperative efforts to raise school performance and for motivating teachers to be involved in school management and development as well. We must not forget that good school management associated with a well-developed learning process and learning environment could lead to enhanced school performance. Therefore, synergy between school management and teachers activities needs to be achieved while developing performance-related pay. This study also confirms the work of authors who claim that pupil academic performance is not a good performance indicator to use as the basis of a reward system.

The study showed that the pedagogues in Estonian schools have positive opinions of paying teachers based on their performance. However, it is possible that these feelings are not because they believe that performance-related pay is suitable for rewarding teachers, but because they generally have high expecta-



tions of a salary increase. The overall salary level in the Estonian education sector is rather modest and the issue of a salary increase has been out in the open for several years. The current education system relies on overworked and underpaid teachers that hardly provide a favourable context for educating citizens. The solution to the problem of low salaries for teachers in the author's view is not a general increase in teachers' salaries, but differentiating salary levels based on the teachers' performance in achieving school objectives. Therefore, the author proposes implementing a performance-related pay system, which makes it possible to link teachers' incomes with their ability to increase school outcomes and pupil performance.

However, despite the teachers' positive opinions about performance-related pay and its several advantages, there are also several disadvantages, which may negate all the benefits of rewarding teachers on the basis of their performance. The most critical problems arise in developing a fair and accepted system that would allow every teacher to be rewarded on the basis of excellent performance. Similarly, the general organisational culture of each school must not be harmed by increased competition between teachers because in order to achieve integration between the subjects taught, cooperation among teachers is crucial. In summary, every school has to ascertain which reward system is most suitable for achieving the school's objectives and motivating teachers. However, performance-related pay is seen as a good tool for differentiating teachers' salaries, and a good alternative to the current salary system, which primarily rewards teachers on the basis of occupational level and workload.

The generalisations about the managerial aspects of performance appraisal and performance-related pay discussed here on the basis of Estonian general educational schools can easily be projected to managing the design and implementation of teacher performance appraisal and performance-related pay in schools in other countries. However, the selection of performance appraisal and performance-related pay criteria is more specific on the context of the education sector. Irrespective of this limitation, some general aspects can be used in performance appraisal and performance-related pay design in other countries. For example, the author emphasises the importance of finding synergy between school management and the activities of teachers and attending to the achievement of teachers both as individuals and as team members.

In conclusion, despite of the evidence of several studies about the positive relationships between the implementation of performance-related pay and school performance indicators, the current study found no strong evidence that rewarding teachers on the basis of their performance would help attract more qualified teachers and achieve higher academic performance in pupils. In addition, in contrast to expectations, it was not possible to prove the existence of perceived strong positive relationships between performance appraisal and performance-related pay. This suggests the need for further research development.

## **Limitations and recommendations for further research**

This study is the first time performance management was studied so systematically in Estonian general educational schools, which means there is no comparative data to analyse the change over time. This influences the results of measuring the relationships between performance-related pay and school performance. The influence of performance-related pay on school performance can only be proven by comparing indicators of school performance when teachers were not being rewarded on the basis of their performance with when they are. Because of the lack of longitudinal and comparative data, unfortunately no conclusions can be made about whether the implementation of performance-related pay in Estonian general educational schools would actually benefit schools in terms of increased school performance. Therefore, it is currently only possible to compare the performance indicators in those school that have implemented performance-related pay with those schools that have not. However, it is not possible to conclude whether the differences actually result from rewarding teachers on the basis of their performance or because performance-related pay is implemented in schools that are located in the larger cities where it is much easier to select the best teachers and attract capable pupils.

Another issue that may influence the results of this study stems from the lack of knowledge among pedagogues about the existence and use of the new management tools – teacher performance appraisal and performance-related pay. Although performance-related pay is not so common, the opinions of this management tool among pedagogues in Estonia may be coloured by the fact that they have not experienced it. This limitation is particularly relevant in the current context in Estonia, where the expectation of a salary increase among teachers is high. Teachers might think that any change to their salary system will result in a salary increase. It is important to emphasise that in order to reduce the risk to the research outcome of the limited understanding of teacher performance appraisal and performance-related pay, explanatory paragraphs were prepared and presented before the teacher performance appraisal and performance-related pay blocks in the questionnaire.

Based on the aforementioned limitations, further research needs to be conducted. Firstly, longitudinal data needs to be gathered to analyse the dynamics of performance management, pedagogues' opinions and change in Estonian general educational schools. A study of this kind could be an annual event for both educational leaders and school headmasters. Collecting longitudinal data makes it possible to identify implications about the causal relationships between performance-related pay and school performance. Conclusions about whether the implementation of performance-related pay would actually increase school performance can only be achieved through more detailed analysis. Subsequent analysis should concentrate on determining the link between performance appraisal and performance-related pay in order to determine more specific reasons for the weak perceived relationships between performance appraisal and performance-related pay. Additional qualitative analysis would also provide

valuable information about the relationships between performance-related pay and school performance and the reasons for the weak relationships between performance appraisal and performance-related pay in Estonian general educational schools.

Although one of the strengths of this study is that it was part of the larger project, “Performance and the analysis of influencing drivers in public schools”, initiated in cooperation with the Estonian Ministry of Education and Research and the University of Tartu, this is also a source of limitations. The project team consisted of three different research groups each with their own research topics – financial management, quality management and performance management. The author of this dissertation was a member of the performance management research group. Because the questionnaire for the study was limited, only a limited number of claims could be included in the current study. The same limitation affected the case studies as well. Therefore, not all relevant issues could be included in this study. Therefore, in further research, the model of the key characteristics of school performance needs to be studied more specifically, gathering extra data about the professional characteristics of teachers, schools, and their organisational culture, and more specific information about the learning process and the learning environment in schools. In addition the data on the external environment should be included in the analysis process because, as Hanushek (1997) concluded, family and peers of pupils have an important influence on pupil performance.

## REFERENCES

1. **Aaltio, I.** (2008), "Management education as an identity construction: the case of Estonia and its transition economy background", *Int. Journal Entrepreneurship and Small Business*, Vol. 5 No. 1, pp. 83–99.
2. **Aaltio-Marjosola, I.** (1994), "From a "Grand Story" to Multiple Narratives?: Studying an Organizational Change Project, *Journal of Organizational Change*, Vol. 7 No. 5, pp. 56–67.
3. **Abroi, A.** (2008), The possibilities of motivating teachers in the European Union based on the examples of Estonia, the Czech Republic and Finland, Master Thesis, Tartu University Press, Tartu: The University of Tartu.
4. **Aidla, A.** (2009), The impact of individual and organisational factors on academic performance in Estonian general educational schools, Ph. D Thesis, Tartu University Press, Tartu: The University of Tartu.
5. **Aladwani, A. M.** (2001), "Change management strategies for successful ERP implementation", *Business Process Management Journal*, Vol. 7 No. 3, pp. 266–275.
6. **Alas, R. and Vadi, M.** (2006), "The employees' attitudes and their connections with the organisational culture in the process of change in the Estonian organisations", *Baltic Journal of Management*, Vol. 1 No. 1, pp. 49–66.
7. **Albers Mohrman, S., Lawler, E. E., Mohrman, A. M.** (1992), "Applying Employee Involvement in Schools", *Educational Evaluation and Policy Analysis*, Vol. 14 No. 4, pp. 347–360.
8. Alberta Education: Guide to Education Planning and Results Reporting: Requirements for Alberta school boards and francophone school authorities and their schools, 2005, available at: <http://www.education.gov.ab.ca/departments/planning/schoolguides/SBPRGuide2005.pdf> (accessed 21 February 2011).
9. **Alexander, G., van Wyk, M.M.** (2010), "Do principal-educators have the ability to transform schools?: A South African perspective", *Teaching and Teacher Education*, Vol. 26 Issue 4, pp. 786–795.
10. **Armenakis, A. A., Harris, S. G.** (2002), "Crafting a change message to create transformational readiness", *Journal of Organizational Change*, Vol. 15 No. 2, pp. 169–183.
11. **Armstrong, M.** (2000), "Performance management", Dransfield, R. (Ed.), *Human resource Management*, Heinemann Educational Publishers, Halley Court, Jorran Hill, Oxford.
12. **Armstrong, M.** (2006), "A Handbook of Human Resource Management Practice", Cambridge University Press, Great Britain.
13. **Arnold, H. J.** (1981), "A Test of the Validity of the Multiplicative Hypothesis of Expectancy-Valence Theories of Work Motivation", *Academy of Management Journal*, Vol. 24 No. 1, pp. 128–141.
14. **Artusi, R., Verderio, P., Marubini, E.** (2002), "Bravais-Pearson and Spearman correlation coefficients: measuring, test of hypothesis and confidence interval", *The International Journal of Biological Markers*, Vol. 17 No. 2, pp. 149–151.
15. **Astone, N. M. and McLanahan, S. S.** (1991), "Family Structure, Parental Practices and High School Completion", *American Sociological Review*, Vol. 56 No. 3, pp. 309–320.

16. **Atkinson, A., Burgess, S., Croxson, B., Gregg, P., Propper, C., Slater, H. and Wilson, D.** (2009), "Evaluating the impact of performance-related pay for teachers in England", *Labour Economics*, Vol. 16 Issue 3, pp. 251–261.
17. **Bach, S.** (2005), "New directions in performance management", in S. Bach (ed), *Managing Human Resources: Personnel Management in Transition*, Oxford: Blackwell.
18. **Backer, T. E.** (1995), "Assessing and Enhancing Readiness for Change: Implications for Technology Transfer", in Backer, T. E., David, S. L., *Reviewing the Behavioral Science Knowledge Base on Technology Transfer*, NIH Publication, Rockville, pp. 21–41.
19. **Baker, G. P., Jensen, M. C., Murphy, K. J.** (1988), "Compensation and Incentives: Practice vs. Theory", *The Journal of Finance*, Vol. 43 No. 3, pp. 593–616.
20. **Ball, S. J.** (1993), "Education Policy, Power Relations and Teachers' Work", *British Journal of Educational Studies*, Vol. 41 No. 2, pp. 106–121.
21. **Ballou, D. and Podgursky, M.** (1995), "Recruiting Smarter Teachers", *The Journal of Human Resources*, Vol. 30 No. 2, pp. 326–338.
22. **Bandura, A.** (1971), "Vicarious and Self-Reinforcement Processes", *The Nature of Reinforcement*, available at: <http://des.emory.edu/mfp/Bandura1971.pdf> (accessed 25 June 2011).
23. **Bartlett, S.** (2000), "The Development of Teacher Appraisal: A Recent History", *British Journal of Educational Studies*, Vol. 48 No. 1, pp. 24–37.
24. **Becker, B., Gerhart, B.** (1996), "The Impact of Human Resource Management on Organizational Performance: Progress and Prospects", *Academy of Management Journal*, Vol. 39 No. 4, pp. 779–801.
25. **Becton, J. B., Giles, W.F., Schraeder, M.** (2008), "Potential consequences of formally incorporating organisational citizenship behaviour in performance appraisal and reward systems", *Employee Relations*, Vol. 30 No. 5, pp. 494–514.
26. **Benedict, M. E. and Levine, E. L.** (1988), "Delay and Distortion: Tacit Influences on Performance Appraisal Effectiveness", *Journal of Applied Psychology*, Vol. 73 No. 3, pp. 507–514.
27. **Berman, P., McLaughlin, M. W.** (1978), *Federal Programs Supporting Educational Change*, Vol. VIII: Implementing and Sustaining Innovations, Rand, Santa Monica.
28. **Bititci, U. S., Turner, T., Begemann, C.** (2000), "Dynamics of performance measurement systems", *International Journal of Operations & Production Management*, Vol. 20 No. 6, pp. 692–704.
29. **Borg, M. O., Shapiro, S. L.** (1996), "Personality Type and Student Performance in Principles of Economics", *The Journal of Economic Education*, Vol. 27 No. 1, pp. 3–25.
30. **Brennan, R., Felekis, G., Goldring, D.** (2003), "Strategic Management of Marketing and Human Resources in Further Education Colleges", *Journal of Further Higher Education*, Vol. 27 No. 2, pp. 143–156.
31. **Brown, M and Benson, J.** (2003), "Rated to exhaustion? Reactions to performance appraisal processes", *Industrial Relations Journal*, Vol. 34 No. 1, pp. 67–81.
32. **Brown, B. W. and Saks, D. H.** (1975), "The production and Distribution of Cognitive Skills Within Schools", *Journal of Political Economy*, Vol. 83 No. 3, pp. 571–593.

33. **Bryson, J. M., Roering, W. D.** (1987), "Applying Private Sector Strategic Planning in the Public Sector", *Journal of American Planning Association*, Vol. 53 No. 1, pp. 9–22.
34. **Burgess, S., Croxson, B., Gregg, P., Propper, C.** (2001), "The Intricacies of the Relationship Between Pay and Performance for Teachers: Do teachers respond to Performance Related Pay schemes?", working paper, in CMPO Working Paper Series No. 01/35, 32 p.
35. **Burgess, S. and Ratto, M.** (2003), "The Role of Incentives in the Public Sector: Issues and Evidence", working paper, in Leverhulme Centre for Market and Public Organisation, No. 03/071, 31 p.
36. **Burke, W. W., Lake, D. G., Paine, J. W.** (2009), *Organization Change: A Comprehensive Reader*, Josey-Bass, San Francisco.
37. Business and Industry Advisory Committee to the OECD (BIAC). (2007), "Discussion Points on school Leadership", working paper, OECD International Workshop OECD International Workshop on School Leadership Development Strategies 3rd Workshop of Participating Countries, Dublin November 7th 2007.
38. **Caldwell, B. J.** (1998), "Strategic leadership, resource management and effective school reform", *Journal of Educational Administration*, Vol. 36 No. 5, pp. 445–461.
39. **Cameron, R. J.** (1998), "School Discipline in the United Kingdom: Promoting Classroom Behaviour Which Encourages Effective Teaching and Learning", *School Psychology Review*, Vol. 27 No 1, pp. 33–44.
40. **Campbell, D. J. and Lee, C.** (2011), „Self-Appraisal in Performance Evaluation: Development versus Evaluation“, *The Academy of Management Review*, Vol. 13 No. 2 , pp. 302–314.
41. **Carmeli, A. and Tishler, A.** (2004), "The Relationships Between Intangible Organizational Elements and Organizational Performance", *Strategic Management Journal*, Vol. 25, pp. 1257–1278.
42. **Carraher, S. M.** (2011), Turnover prediction using attitudes towards benefits, pay, and pay satisfaction among employees and entrepreneurs in Estonia, Latvia, and Lithuania", *Baltic Journal of Management*, Vol. 6 No. 1, pp. 25–52.
43. **Cavalluzzo, L.** (2004), "Is National Board Certification An Effective Signal of Teacher Quality?", available at: [http://www.nbpts.org/UserFiles/File/Final\\_Study\\_11204\\_D\\_-\\_Cavalluzzo\\_-\\_CNA\\_Corp..pdf](http://www.nbpts.org/UserFiles/File/Final_Study_11204_D_-_Cavalluzzo_-_CNA_Corp..pdf) (accessed 2 November 2010).
44. **Cawley, B. D., Keeping, L. M., Levy, P. E.** (1998), "Participation In the Performance Appraisal Process and Employee Reactions: A Meta-Analytic Review of Field Investigations", *Journal of Applied Psychology*, Vol. 83 No. 4, pp. 615–633.
45. **Chamberlin, R., Wragg, T., Haynes, G., Wragg, G.** (2004), "Performance-related pay and the teaching profession: A review of the literature", in Wragg, E. C. (Ed.), *The Routledge Falmer Reader in Teaching and Learning*, Routledge Falmer, Abingdon, Oxon, pp. 185–202.
46. **Chang, E. and Hahn, J.** (2006), "Does pay-for-performance enhance perceived distributive justice for collectivistic employees? ", *Personnel Review*, 2006, Vol. 35 No. 4, pp. 397–412.
47. **Cheng, Y.C.** (1993), "School Effectiveness and School Improvement", *An International Journal of Research, Policy and Practice*, Vol. 4, Issue 2, pp. 85–110.
48. Computing Transformations. Data Analysis and Computer, available at: [www.utexas.edu/courses/.../ComputingTransformations\\_spring2005.ppt](http://www.utexas.edu/courses/.../ComputingTransformations_spring2005.ppt) (accessed 7 July 2011)

49. **Cotton, K.** (1996), "School Size, School Climate, and Student Performance", available at: [http://www.apexsql.com/\\_brian/School%20 Size%20Matters.pdf](http://www.apexsql.com/_brian/School%20Size%20Matters.pdf) (accessed 22 May 2011).
50. **Cutler, T. and Waive, B.** (1999), "Rewarding Better Teachers?: Performance Related Pay in Schools", *Educational Management Administration Leadership*, Vol. 27 No. 55, pp. 55–70.
51. **Cranston, N. C.** (2002), "School-based Management, Leaders and Leadership: Change and Challenges for Principals", *International Studies in Educational Administration*, Vol. 30 No.1, pp. 2–13.
52. **Darling-Hammond, L., Wise, A. E., Pease, S. R.** (1983), "Teacher Evaluation in the Organizational Context: A Review of the Literature", *Review of Educational Research*, Vol. 53 No. 3, pp. 285–328.
53. **Darling-Hammond, L.** (2000), "Teacher Quality and Student Achievement: A Review of State Policy Evidence", *Education Policy Analysis Archives*, Vol. 8 No. 1, available at: <http://epaa.asu.edu/epaa/v8n1/> (accessed 4 January 2011).
54. **Davis, D. R., Ellett, C. D., Annunziata, J.** (2002), "Teacher Evaluation, Leadership and Learning Organizations", *Journal of Personnel Evaluation in Education*, Vol. 16 No. 4, pp. 287–301.
55. **De Andre's, R., Garcí a-Lapresta, J. L., Martinez, L.** (2010), "A multi-granular linguistic model for management decision-making in performance appraisal", *Soft Computing*, Vol 14 Issue 1, pp. 21–34.
56. **Delaney, J. T., Huselid, M. A.** (1996), "The Impact of Human Resource Management Practices of Perceptions of Organizational Performance", *Academy of Management Journal*, Vol. 39 No. 4, pp. 949–969.
57. **Deming, W. E.** (2000), *Out of the crisis*, First MIT Press, Cambridge.
58. Department of Education, (2000), "Research into Teacher Effectiveness: A Model of Teacher Effectiveness" by Hay McBer, available at: [http://www.ttrb.ac.uk/ attachments/72f245a7-f698-467a-8304-6a0d5a6aa906.pdf](http://www.ttrb.ac.uk/attachments/72f245a7-f698-467a-8304-6a0d5a6aa906.pdf) (accessed 20 November 2010).
59. **De Vaus, D.** (2002), *Surveys in Social Research*, Routledge, Abingdon, Oxon.
60. DfEE: Performance Management in Schools: Performance Management Framework, DfEE0051/2000, available at: [www.teachernet.gov.uk/\\_doc/5176/ Perform\\_Mgr\\_frame.rtf](http://www.teachernet.gov.uk/_doc/5176/Perform_Mgr_frame.rtf) (accessed 21 February 2011).
61. Differential Teacher Pay Initiatives: An Overview—December (2006), available at: <http://www.americanprogress.org/issues/2006/12/pdf/Differe ntialTeacherPay.pdf> (accessed 12 June 2009).
62. **Dransfield, R.** (2000), *Human Resource Management*. Heinemann, Hardcover.
63. **Drucker, P. F.** (1976), "What Results Should You Expect? A Users' Guide to MBO", *Public Administration Review*, Vol. 36 No. 1, pp. 12–19.
64. **Dunham, R.B., Grube, J.A., Gardner, D.G., Cummings, L.L., Pierce, J.L.** (1989), "The development of an attitude toward change instrument", paper presented at the Academy of Management Annual Meeting, Washington, DC,. Cited from Rashid, Z. A. Sambasivan, M., Rahman, A. A. (2004), "The influence of organizational culture on attitudes toward organizational change", *Leadership & Organization Development Journal*, Vol. 25 No. 2, pp. 161–179.
65. **Eberts, R., Hollenbeck, K. And Stone, J.** (2002), "Teacher Performance Incentives and Student Outcomes", *The Journal of Human Resources*, Vol. 37 No. 4, pp. 913–927.

66. Eesti hariduse viis väljakutset, Eesti haridusstrateegia (elukestva õppe strateegia) 2012–2020 kavand, available at: [http://www.elu5x.ee/public/documents/materjalid/Haridusstrateegia\\_kavand\\_23\\_05.pdf](http://www.elu5x.ee/public/documents/materjalid/Haridusstrateegia_kavand_23_05.pdf) (accessed 30 May 2011).
67. EFQM täiuslikkusemudel (2002), available at: <http://files.eaq.ee/taiuslikkusemudel/taiuslikkusemudel.pdf> (accessed 01.08. 2011)
68. **Engert, F.** (1996), “The reporting of school district efficiency: the adequacy of ratio measures”, *Public Budgeting and Financial Management*, Vol. 8, pp. 247–271.
69. **Ferlie, E., Pettigrew, A., Ashburner, L., Fitzgerald, L.** (1996), *The New Public Management in Action*, Oxford University Press, New York.
70. **Fernando, S. D., Gunawardena, D. M., Bandara M. R. S. S., De Silva, D, Carter, R, Mendis, K. N., Wickremasinghe, A.R.** (2003), “The Impact of Repeated Malaria Attacks on the School Performance of Children”, *American Journal of Tropical Medicine and Hygiene*, Vol. 69 No. 6, pp. 582–588.
71. **Figlio, D, N. and Kenny, L. W.** (2007), “Individual teacher incentives and student performance”, *Journal of Public Economics*, Vol. 91 Issues 5–6, pp. 901–914.
72. **Fisher, D., Fraser, B., Hent, H.** (1998), “Relationships between Teacher-Student Interpersonal Behaviour and Teacher Personality“, *School Psychology International*, Vol. 19 No. 2, pp. 99–119.
73. **Fletcher, C.** (2001), “Performance appraisal and management: The developing research agenda”, *The Journal of Occupational and Organisational Psychology*, Vol. 74, pp. 473–487.
74. **Fletcher, C and Williams, R.** (1996), “Performance Management, Job Satisfaction and Organizational Commitment”, *British Journal of Management*, Vol. 7, pp. 169–179.
75. **Forest, V.** (2008), “Performance-related pay and work motivation: theoretical and empirical perspectives for the French civil service”, *International Review of Administrative Sciences*, Vol. 74 No. 2, pp. 325–339.
76. **Gaiduk, R., Gaiduk, J., Fields, D.** (2009), “Limiting the brain drain: Determinants of employee organizational attachment in Lithuania”, *Baltic Journal of Management*, Vol. 4 No. 2, pp. 149–168.
77. **Gaziel, H. H.** (1997), “Impact of School Culture on Effectiveness of Secondary Schools With Disadvantaged Students“, *The Journal of Educational Research*, Vol. 90 No. 5, pp. 310–318.
78. **Gielen, A. C., Kerkhofs, M. J. M., van Ours, J. C.** (2010), “How performance related pay affects productivity and employment”, *Journal of Population Economics*, Vol. 23 No. 1, pp. 291–301.
79. **Glasman, N., Cibulka, J., Ashby, D.** (2002), “Program Self-Evaluation for Continuous Improvement”, *Educational Administration Quarterly*, Vol. 38, No. 2, pp. 257–288.
80. **Globerson, S.** (1985), “Issues in developing a performance criteria system for an organisation”, *International Journal of Prod. Res.*, Vol. 23 No. 4, pp. 639–646.
81. **Goodson, I. F.** (2001), “Social Histories of Educational Change”, *Journal of Educational Change*, Vol. 2, pp. 45–63.
82. **Gratz, D. G. and Kappan, P. D.** (2005), “Lessons from Dencer: The Pay for Performance Pilot”, available at: <http://www.questia.com/googleScholar.qst?docId=5009329158> (accessed 28 May 2011).



83. **Griffith, J.** (2004), "Relation of principal transformational leadership to school staff job satisfaction, staff turnover, and school performance", *Journal of Educational Administration*, Vol. 42 Issue 3, pp.333–356.
84. **Grote, R. C.** (1996), *The Complete Guide to Performance Appraisal*, AMACOM, New York, NY.
85. **Hallinger, P., Bickman, L., Davis, K.** (1996), "School Context, Principal Leadership, and Student Reading Achievement", *The Elementary School Journal*, Vol. 96 No. 5, pp. 527–549.
86. **Hanley, G. and Nguyen, L.** (2005), "Right on the money What do Australian unions think of performance-related pay?", *Employee Relations*, Vol. 27 No 2, pp. 141–159.
87. **Hanushek, E. A.** (1986), "The Economics of Schooling: Production and Efficiency in Public Schools", *Journal of Economic Literature*, Vol. 24 Issue 3, pp. 1141–1177.
88. **Hanushek, E. A.** (1989), "The Impact of Differential Expenditures on School Performance", *Educational Researcher*, Vol. 18 No. 4, pp. 45–51.
89. **Hanushek, E.A.** (1997), "Assessing the effects of school resources on student performance: an update", *Educational Evaluation and Policy Analysis*, Vol. 19 No. 2, pp. 141–64.
90. **Hanushek, E. A. and Rivkin, S. G.** (2007), "Pay, Working Conditions, and Teacher Quality", *The Future of Children*, Vol. 17 No. 1, pp. 69–86.
91. Haridus- ja Teadusministeeriumi põhimäärus, Vabariigi valitsus, available at: <https://www.riigiteataja.ee/akt/13201725> (accessed 30 May 2011).
92. **Harris, A., Day, C., Hadfield, M.** (2003). "Teachers' Perspectives on Effective School Leadership", *Teachers and Teaching: Theory and Practice*, Vol. 9 No. 1, pp. 67–77.
93. **Hartog, D. N., Boselie, P., Paauwe, J.** (2004), "Performance Management: A Model and Research Agenda", *Applied Psychology: An International Review*, Vol. 53 No. 4, pp. 556–569.
94. **Healey, J. F. and Prus, s. G.** (2010), *Statistics: A Tool For Social Research*, Toronto: Nelson Education Ltd.
95. **Healy, G.** (1997), "The industrial relations of appraisal: the case of teachers", *Industrial Relations Journal*, Vol. 28 No. 3, pp. 206–220.
96. **Hedges, L. V., Laine, R. D., Greenwald, R.** (1994), "Does Money Matter? A Meta-Analysis of Studies of the Effects of Differential School Inputs on Student Outcomes", *Educational Researcher*, Vol. 23 No. 3, pp. 5–14.
97. **Heinrich, C. J.** (2002), "Outcomes-Based Performance Management in the Public Sector: Implications for Government Accountability and Effectiveness", *Public Administration Review*, Vol. 62 No. 6, pp. 712–725.
98. **Heinrich, C. J. and Marschke, G.** (2009), "Incentives and Their Dynamics in Public Sector Performance Management Systems", available at: <http://www.albany.edu/~marschke/Paper/heinmars.pdf> (accessed 10 July 2011).
99. **Herzberg, F.** (2003), „One More Time: How Do You Motivate Employees?“, *Harvard Business Review*, March-April, pp. 18–31.
100. **Holmlund, H. and Sund, K.** (2008), "Is the gender gap in school performance affected by the sex of the teacher?", *Labour Economics*, Vol. 15 Issue 1, pp. 37–53.

101. **Ilgén, D. R. and Favero, J. L.** (1985), "Limits in Generalization from Psychological Research to Performance Appraisal Processes", *The Academy of Management Review*, Vol. 10 No. 2, pp. 311–321.
102. **Ingraham, P. W.** (1993), "Of Pigs in Pokes and Policy Diffusion: Another Look at Pay-for-performance", *Public Administration Review*, Vol. 53 No. 4, pp. 349–356.
103. **Ingvarson, L., Kleinhenz, E. and Wilkinson, J.** (2007), "Research on Performance Pay for Teachers", available at: <http://www.dest.gov.au/NR/rdonlyres/D477C6A5-C8EF-4074-8619-FF43059445F8/25208/ACERPerformancePayPaper.pdf> (accessed 25 November 2010).
104. **Ikoya, P. O.** (2008), "Centralization and decentralization of schools' physical facilities management in Nigeria", *Journal of Educational Administration*, Vol. 46 No. 5, pp. 630–649.
105. **Irs, R. and Ploom, K.** (2009), "Enhancing the Performance of Estonian Primary Schools via Evaluation", in Petter, R., Barsauskas, P., Chmieliauskas, A., Kundrotas, V., Pundziene, A. (Ed.), *modern management research conference proceedings "Insights Into the Sustainable Growth of Business" in Vilnius, Lithuania, 19–21 November 2009*, Emerald Group Publishing Limited, pp. 1–14.
106. **Irs, R., Türk, K., Vadi, M.** (2009). "The Possibilities for Appraising Teachers' Performance in the Perspective of Educational Policy and Organizational Culture", in Mäeltsemees, S., Reiljan, J. (Ed.), *discussions on Estonian economic policy XVII conference proceedings in Värskas, Estonia, 1–3 July 2009*, Berlin\*Tallinn: Berliner Wissenschafts-Verlag, Mattimar, pp. 37–60.
107. **Ittner, C. D. and Larcker, D. F.** (2003), "Coming up short on nonfinancial performance measurement", *Harvard Business Review*, November 2003, pp. 88–95.
108. **Jackson, P.** (1988), "The Management of Performance in the Public Sector", *Public Money & Management*, Winter, pp. 11–16.
109. **Jacobson, S. L.** (1992), "Performance-related pay for teacher: the American experience". In: Tomlinson, H (Ed.) *Performance-related pay in Education*. London: Routledge.
110. **Jensen, D.; McMullen, T.; Stark, M.** (2007), *The manager's guide to rewards: what you need to know to get the best for and from your employees*, American Management Association, New York.
111. **Johnson, S. M. and Birkeland, S. E.** (2003), "Pursuing a "Sense of Success": New Teachers Explain Their Career Decisions", *American Educational Research Journal*, Vol. 40 No. 3, pp. 581–617.
112. **Johnson, G.; Scholes, K., Whittington, R.** (2006), *Exploring corporate strategy: text and cases*, Financial Times/Prentice Hall, New York.
113. **Kaplan, R. and Norton, D.**, (1996). *The Balanced Scorecard*, Harvard Business Press.
114. **Katzell, R. A. and Thompson, D. E.** (1990), "Work Motivation: Theory and Practice", *American Psychologist*, Vol. 45 No. 2, pp. 144–153.
115. **Kelley, H. H. And Volkart, E. H.** (1952), "The Resistance to Change of Group-Anchored Attitudes", *American Sociological Review*, Vol. 17 No. 4, pp. 453–465.
116. **Kelly, K. O, Ang, S. Y. A, Chong, W. L and Hu, W. S.** (2008), "Teacher appraisal and its outcomes in Singapore primary schools", *Journal of Educational Administration*, Vol. 46 No. 1, pp. 39–54.

117. **Kettl, D. F., Kelman, S.** (2008), "Reflections of 21<sup>st</sup> Century Government Management", *2008 Presidential Transition Series*, IBM Center for the Business of Government, available at: <http://faculty.cbpp.uaa.alaska.edu/afgjp/PADM610/Reflections%20on%2021st%20Century%20Management.pdf> (accessed 11 July 2011).
118. **Kingdon, G. G., Teal, F.** (2007), "Does Performance Related Pay For Teachers Improve Student Performance?: Some Evidence From India", *Economics of Education Review*, Vol. 26 Issue 4, pp. 473–486.
119. **Kloot, L. and Martin, J.** (2000), "Strategic performance management: A balanced approach to performance management issues in local government", *Management Accounting Research*, Vol. 11, pp. 231–251.
120. **Kotler, P., Murphy, P. E.** (1981), "Strategic Planning for Higher Education", *The Journal of Higher Education*, Vol. 52 No. 5, pp. 470–489.
121. **Kravchuk, R. S. and Schack, R. W.** (1996), "Designing Effective Performance-Measurement Systems Under the government Performance and Results Act of 1993", *Public Administration Review*, Vol. 56 No. 4, pp. 348–358.
122. **Kriemadis, A.** (1997), "Strategic planning in higher education athletic departments", *International Journal of Educational Management*, Vol. 11 No. 6 pp. 238–247.
123. **Krishnapillai, A.** (2009), "Understanding key performance indicators through driver measures", M.Sc., University of Ottawa (Canada), available at: <http://proquest.umi.com.ezproxy.utlib.ee/pqdlink?vinst=PROD&attempt=1&fint=14&startpage=-1&ver=1&vname=PQD&RQT=309&did=2060845161&exp=07-09-2016&scaling=FULL&vtype=PQD&rq=309&TS=1310367494&clientId=57641> (accessed 11 July 2011).
124. **Krull, E.** (2001), *Pedagoogilise psühholoogia käsiraamat*. Tartu Ülikooli Kirjastus: Tartu.
125. **Kuhmerker, K. and Hartman, T.** (2007), *Pay-for-Performance in State Medicaid Programs: A Survey of State Medicaid Directors and Programs*, available at: [http://www.providersedge.com/ehdocs/ehr\\_articles/Pay-for-Performance\\_in\\_State\\_Medicaid\\_Programs.pdf](http://www.providersedge.com/ehdocs/ehr_articles/Pay-for-Performance_in_State_Medicaid_Programs.pdf) (accessed 28 May 2011).
126. **Kukemelk, H., Türk, K., Haldma, T.** (2009), "Kuhu lähed, Eesti kool?", *Õpetajate leht*, 28. august, p. 17.
127. **Lancer Julnes, P. And Holzner, M.** (2001), "Promoting the Utilization of Performance Measures in Public Organisations: An Empirical Study of Factors Affecting Adoption and Implementation", *Public Administration Review*, Vol. 61 No. 6, pp. 693–708.
128. **Lawler, E. E.** (1969), "Job Design and Employee Motivation", *Personnel Psychology*, Vol. 22 Issue 4, pp. 426–435.
129. **Lazear, E. P.** (2000), "Performance Pay and Productivity", *The American Economic Review*, Vol. 90 No. 5, pp. 1346–1361.
130. **Lazear, E. P.** (2001), "Paying Teachers for Performance: Incentives and Selection", Hoover Institution and Graduate School of Business, available at: <http://cee.lse.ac.uk/Conference%20Papers/teacher%20pay%20and%20incentives/lazear.pdf> (accessed 28 May 2011).
131. **Lazear, E. P.** (2003), "Teacher incentives", *Swedish Economic Policy Review*, Vol. 10 No. 2, pp. 179–214.
132. **Lee, J.-W.; Barro, R. J.** (2001), "Schooling Quality in a Cross-Section of Countries", *Economica*, 68, pp. 465–488.

133. **Leithwood, K. and Jantzi, D.** (2000), "The effects of transformational leadership on organizational conditions and student engagement with school", *Journal of Educational Administration*, Vol. 38 No. 2, pp. 112–129.
134. **Lewis, P.** (1998), "Managing performance-related pay based on evidence from the financial services sector", *Human Resource Management Journal*, Vol. 8 No. 2, pp. 66–77.
135. **Locke, E. A.; Latham, G. P.** (2002), "Building a Practically Useful Theory of Goal Setting and Task Motivation: A 35-Year Odyssey", *American Psychologist*, Vol. 57 No. 9, pp. 705 – 717.
136. **Loeb, S. and Page, M. E.** (2000), "Examining the link between teacher wages and student outcomes: the importance of alternative labor market opportunities and non-pecuniary variation", *The Review of Economics and Statistics*, Vol. 82 No. 3, pp. 393–408.
137. **Lohman, C., Fortuin, L., Wouters; M.** (2004), "Designing a performance measurement system: A case study", *European Journal of Operational Research*, Vol. 156, pp. 267–286.
138. **Macaulay, S. and Cook, S.** (1994), "Performance Management as the Key to Customer Service", *Industrial and Commercial Training*, Vol. 26 No. 11, pp. 3–8.
139. **Mancebon, M.-J. and Bandres, E.** (1999), "Efficiency Evaluation in Secondary Schools: the key role of model specification and of ex post analysis of results", *Education Economics*, Vol. 7 No. 2, pp. 131–152.
140. **Mani, B. G.** (2002), "Performance Appraisal Systems, Productivity, and Motivation: A Case Study", *Public Personnel Management*, Vol. 31.
141. **Marcinkoniene, R. and Kekäle, T.** (2007), "Action research as culture change tool", *Baltic Journal of Management*, Vol. 2 No.1, pp. 97–109.
142. **Marsden, D.** (2004), "The Role of Performance-Related Pay in Renegotiating the "Effort Bargain": the Case of the British Public Service", *Industrial and Labor Relations Review*, Vol. 57 No. 3, pp. 350–370.
143. **Marsden, D. and Belfield, R.** (2006), "Pay for performance where output is hard to measure: the case of performance pay for school teachers. London: LSE Research Online, available at: <http://eprints.lse.ac.uk/archive/00000850> (accessed 28 May 2011).
144. **Marsden, D. and French, S.** (1998), *What a Performance?: Performance Related Pay in the Public Services*. Centre for Economic Performance, London, 182 p.
145. **Maslowski, R.** (2001), *School Culture and School Performance*, Ph.D Thesis, Twente: The University of Twente.
146. **Mattila, M. And Aaltio, I.** (2006), "From Tools to Social Construction of Organizational Reality: Studying Value Dissemination in three Case Companies", *Electronic Journal of Business Ethics and Organization Studies*, Vol. 11 No. 2, pp. 15–23.
147. **Martins, E. C. and Terblanche, F.** (2003), "Building organisational culture that stimulates creativity and innovation", *European Journal of Innovation Management*, Vol. 6 No. 1, pp. 64–74.
148. **Mayston, DJ.** (2003), "Measuring and managing educational performance", *Journal of the Operational Research Society*, Vol. 54, pp. 679–691.
149. **McConkie, M. L.** (1979), "A Clarification of the Goal Setting and Appraisal Processes in MBO", *The Academy of Management Review*, Vol. 4 No. 1 , pp. 29–40.

150. **Meyer, R. H.** (1997), „Value-Added Indicators of School Performance: A Primer“, *Economics of Education Review*, Vol. 16 No. 3, pp. 283–301.
151. **Michael, S. O.** (1990), “Marketing Educational Institutions: Implications for Administrators”, *The Canadian Administrator*, Vol. 29 No. 6, pp. 23–30.
152. **Milanowski, A.** (2007), “Performance Pay System Preferences of Students Preparing to Be Teachers”, *Education Finance and Policy*, Vol. 2 No. 2, pp. 111–132.
153. **Miller, C.C., Cardinal, L. B.** (1994), “Strategic Planning and Firm Performance: a Synthesis of more than two decades of research”, *Academy of Management Journal*, Vol. 37 No. 6, pp. 1649–1665.
154. **Millmore, M., Lewis, P., Saunders, M., Thornhill, A., Morrow, T.** (2007), *Strategic Human Resource Management: Contemporary Issues*, Harlow: Financial Times Prentice Hall.
155. **Modell, S.** (2004), “Performance Measurement Myths in the Public Sector: A Research Note”, *Financial Accountability & Management*, Vol. 20 No.1, pp. 39–55.
156. **Mone, E., Eisinger, C., Guggenheim, K., Price, B., Stine, C.** (2011), “Performance Management at the Wheel: Driving Employee Engagement in Organizations”, *Journal of Business Psychology*, Vol. 26, pp. 205–212.
157. **Moynihan, D. P. And Pandey, S. K.** (2010), “The Big Question for Performance Management: Why Do Managers Use Performance Information?”, *Journal of Public Administration Research and Theory*, Vol. 20, pp. 849–866.
158. **Muralidharan, K. and Sundararaman, V.** (2009), “Teacher performance pay: Experimental evidence from India”, working paper [15323], National Bureau of Economic Research, Cambridge, September 2009.
159. **Mwita, J. I.** (2000), “Performance management model: A systems-based approach to public service quality”, *The International Journal of Public Sector Management*, Vol. 13 No. 1, pp. 19–37.
160. NCTQ (2008), *Teacher Performance Appraisal Manual*, National Council on Teacher Quality, available at: [http://www.nctq.org/docs/18-07\\_6670.pdf](http://www.nctq.org/docs/18-07_6670.pdf) (accessed 1 February November 2011).
161. **Neal, D.** (2011), “The design of performance pay in education”, working paper, in NBER Working Paper Series, No. 16710, 51 p.
162. **Neely, A.; Platts, M. G.; Platts, K.** (2005), “Performance measurement system design: A literature review and research agenda”, *International Journal of Operations & Production Management*, Vol. 25 No. 12, pp. 1228–1263.
163. **Nevo, D.** (2001), „School evaluation: internal or external?”, *School of Education*, Tel Aviv University, Tel Aviv, *Israel Studies in Educational Evaluation* 27, pp. 95–106.
164. **Nickols, F.** (2010), *Performance Appraisals: A Final Criticism*, available at: <http://www.nickols.us/afinalcriticism.pdf> (accessed 25 June 2011).
165. **Nunn, A., Bickerstaffe, T., Mitchell, B.** (2009), International review of performance management systems in Public Employment Services, Research Report No. 616, Department for Work and Pensions, available at: <http://campaigns.dwp.gov.uk/asd/asd5/rports2009-2010/rrep616.pdf> (accessed 11 July 2011).
166. **Oberg, W.** (1972), “Make performance appraisal relevant”, available at: [http://feek.pte.hu/feek/feek/download/doks/tantargytematikak/archiv/2004-5\\_2/TGeorge/MAR.doc](http://feek.pte.hu/feek/feek/download/doks/tantargytematikak/archiv/2004-5_2/TGeorge/MAR.doc) (accessed 23 November 2011).

167. **O’Connell Rust, F., Freidus, H.** (2001), *Guiding School Change: The Role and Work of Change Agents*, Teachers College Press, New York, NY.
168. **Odden, A. and Kelley, C.** (2002), *Paying Teachers for What They Know and Do: New and Smarter Compensation Strategies to Improve Schools*, Corwin Press Inc., Thousand Oaks, California.
169. **Odiorne, G. S.** (1976), “MBO in State Government”, *Public Administration Review*, Vol. 36 No. 1, pp. 28–33.
170. OECD (2004), *Education at a Glance: OECD Indicators*, OECD Directorate of Education, Paris.
171. OECD (2007), *Education at a Glance: OECD Indicators*, OECD Directorate of Education, Paris.
172. OECD (2008), *Education at a Glance: OECD Indicators*, OECD Directorate of Education, Paris.
173. OECD (2010), *Education at a Glance: OECD Indicators*. OECD Directorate of Education, Paris.
174. **Ogbu, J. U.** (1978), *Minority Education and Caste: The American System in Cross-Cultural Perspective*, New York: Academic Press.
175. Ontario (2010), *Teacher Performance Appraisal: Technical Requirements Manual*. The Ministry of Education of Ontario, Ontario: Queen’s Printer for Ontario.
176. **Paton, R. A. and McCalman, J.** (2008), *Change Management: A Guide to Effective Implementation*, Sage Publications, London.
177. Performance-Pay for Teachers: Designing a System that Students Deserve.(2007), available at: [http://www.teacherleaders.org/sites/default/files/TS2008\\_0.pdf](http://www.teacherleaders.org/sites/default/files/TS2008_0.pdf) (accessed 1 October 2010).
178. **Perry, J. L., Engbers, T. A., Yun Jun, S.** (2009), “Back to the Future? Performance-Related Pay, Empirical Research, and the Perils of Persistence”, *Public Administration Review*, January/February, pp. 39–51.
179. **Pettai, M. and Lilleste, S.** (2008), *Sisehindamise rakendamisest haridusasutustes: Abiks juhile*, Riiklik Eksami- ja Kvalifikatsioonikeskus, Stampiline, Tallinn.
180. **Piderit, S. K.** (2000), “Rethinking Resistance and Recognizing Ambivalence: A Multidimensional View of Attitudes toward an Organizational Change”, *The Academy of Management Review*, Vol. 25 No. 4, pp. 783–794.
181. **Piekkola, H.** (2005) "Performance-related pay and firm performance in Finland", *International Journal of Manpower*, Vol. 26 Issue 7/8, pp. 619–635.
182. **Pont, B., Nusche, D., Moorman, H.** (2008), *Improving School Leadership. Volume 1: Policy and Practice*, OECD, available at: [http://www.ivea.ie/schools/school\\_leadership/improving\\_school\\_leadership\\_vol\\_1.pdf](http://www.ivea.ie/schools/school_leadership/improving_school_leadership_vol_1.pdf), (accessed 26 May 2011).
183. **Prince, C.D.** (2002), “Attracting Well-Qualified Teachers to Struggling Schools“, *American Educator*, available at: [http://www.aft.org/news\\_pubs/periodicals/ae/winter2002/prince.cfm](http://www.aft.org/news_pubs/periodicals/ae/winter2002/prince.cfm) (accessed 24 June 2011).
184. Professional Standards for Teachers: Why sit still in your career?, Training and Development Agency for Schools, 2007, available at: [http://www.tda.gov.uk/training-provider/serving-teachers/professional-standards-guidance/~media/resources/teacher/professional-standards/standards\\_a4.pdf](http://www.tda.gov.uk/training-provider/serving-teachers/professional-standards-guidance/~media/resources/teacher/professional-standards/standards_a4.pdf) (accessed 21 February 2011).
185. **Propper, C. and Wilson, D.** (2003), “The Use and Usefulness of Performance Measures in the Public Sector”, *Oxford Review of Economic Policy*, Vol. 19 No. 2, pp. 250–267.

186. Põhikooli- ja gümnaasiumiseadus, Riigikogu, available at: <https://www.riigi teataja.ee/akt/13332410> (accessed 28 May 2011).
187. **Ramlall, S.** (2004), „A Review of Employee Motivation Theories and their Implications for Employee Retention within Organizations“, *Journal of American Academy of Business*, Vol. 5 Issue 1/2, pp. 52–63.
188. **Rashid, Z. A. Sambasivan, M.; Rahman, A. A.** (2004), “The influence of organizational culture on attitudes toward organizational change”, *Leadership & Organization Development Journal*, Vol. 25 No. 2, pp. 161–179.
189. **Reichardt, R.** (2001), “Toward a Comprehensive Approach to Teacher Quality, Aurora, CO: Mid-Continent Educational Research for Education and Learning”, available at: [http://www.mcrel.org/PDF/PolicyBreifs/5012PI\\_PBTowardAComprehensive.pdf](http://www.mcrel.org/PDF/PolicyBreifs/5012PI_PBTowardAComprehensive.pdf) (accessed 2 December 2009).
190. **Rhodes, C., Nevill, A. and Allan, J.** (2004), “Valuing and supporting teachers: A survey of teacher satisfaction, dissatisfaction, morale and retention in an English local education authority”, *Research in Education*, No. 71, pp 64–80.
191. **Richardson, R.** (1999), *Performance Related Pay in Schools: An Assessment of the Green Papers*. London School of Economics, London.
192. **Rivkin, S. G., Hanushek, E. A., Kain, J. F.** (2005) “Teachers, Schools, and Academic Achievement”, *Econometrica*, Vol. 73 No. 2, pp. 417–458.
193. **Roberts, G. E.** (2003), “Employee Performance Appraisal System Participation: A Technique that Works”, *Public Personnel Management*, Vol. 32 No. 1, pp. 89–98.
194. **Rogers, S.** (1990), *Performance Management in Local Government*, Longman: London.
195. **Saker, J. and Speed, R.** (1996), “Developing strategic planning in a special education service”, *International Journal of Educational Management*, Vol. 10 No. 1, pp. 5–10.
196. **Sanderson, I.** (2001). “Performance Management, Evaluation and Learning In “Modern” Local Government, *Public Administration*, Vol. 79 No.2, pp. 297–313.
197. **Saunders, L.** (1999), “Who or What is School ‘Self’-Evaluation for?”, *School Effectiveness and School Improvement*, Vol. 10 No. 4, pp. 414–429.
198. **Schneider, W. E.** (2000). Why good management ideas fail: the neglected power of organizational culture, *Strategy & Leadership*, Vol. 28 No.1, pp. 24–29.
199. **Smith, P. C. and Goddard, M.** (2002), “Performance Management and Operational Research: A Marriage Made in Heaven?”, *The Journal of the Operational Research Society*, Vol. 53 No. 3, pp. 247–255.
200. **Smithers, A. and Robinson, P.** (2003). “Factors Affecting Teachers’ Decisions to Leave the Profession”, available at: <http://www.ttrb.ac.uk/attachments/19880c2c-44e0-4f75-8eed-8fc7b7abab0b.pdf> (accessed 5 January 2011).
201. **Solmon, L. C. and Podgursky, M.** (2000), *The Pros and Cons of Performance Based Compensation*, Santa Monica, CA: Milken Family Foundation, available at: [http://web.missouri.edu/podgurskym/articles/files/Pros\\_cons.pdf](http://web.missouri.edu/podgurskym/articles/files/Pros_cons.pdf) (accessed 11 July 2011).
202. **Soss, J., Fording, R., Schram, S. F.** (2009), “The organization of discipline: From performance management to perversity and punishment”, *University of Kentucky Center of Poverty Research Discussion Parer Series*, DP2009-02, available at: <http://www.ukcpr.org/Publications/DP2009-02.pdf> (accessed 10 July 2011).

203. **Stockdale, M. S., Crosby, F. J.** (2004), *The Psychology and Management of Workplace Diversity*, Blackwell Publishing Ltd, Oxford.
204. **Storey, A.** (2000), "A leap of faith? Performance pay for teachers", *Journal of Education Policy*, Vol. 15 No. 5, pp. 509–523.
205. **Storey, A.** (2002), "Performance Management in Schools: could the Balanced Scorecard help?", *School Leadership & Management*, Vol. 22 No. 3, pp. 321–338.
206. **Sudlow, R. E.** (2003), "The Impact of Effective Schools", *Journal of Effective Schools*, Vol. 1 No. 2, pp. 21–27.
207. **Swaffield, S. and MacBeath, J.** (2005), "School self-evaluation and the role of a critical friend", *Cambridge Journal of Education*, Vol. 35, No. 2, pp. 239–252.
208. **Taylor, C. and Gibbs, G. R.** (2010), "How and what to code", *Online QDA Web Site*, available at: [onlineqda.hud.ac.uk/Intro\\_QDA/how\\_what\\_to\\_code.php](http://onlineqda.hud.ac.uk/Intro_QDA/how_what_to_code.php) (accessed 17 February 2012).
209. **Thornton, B., Pletier, G., Hill, G.** (2005), "Do Future Teachers Choose Wisely: A Study of Pre-Service Teachers' Personality Preference Profiles", *College Student Journal*, Vol. 39 Issue 3, available at: <http://www.freepatentsonline.com/article/College-Student-Journal/135842835.html>, (accessed 20 November 2010).
210. **Thorpe, R. and Homan, G.** (2000), *Strategic Reward Systems*, Financial Times Prentice Hall, Harlow, Essex.
211. **Tierney, P.** (1999), "Work relations as a precursor to psychological climate for change – the role of work group supervisors and peers", *Journal of Organizational Change*, Vol. 12 No.2, pp.120–133.
212. **Tolofari, S.** (2005), "New Public Management and Education", *Policy Futures in Education*, Vol. 3 No. 1, pp. 75–89.
213. **Tomlinson, H.** (2000), "Proposals for Performance Related Pay for Teachers in English Schools", *School Leadership and Management*, Vol. 20 No. 3, pp. 281–298.
214. **Towler, L. and Broadfoot, P.** (1992), "Self-assessment in the primary school", *Educational Review*, Vol. 44 Issue 2, pp. 137–151.
215. **Türk, K.** (2008), "Performance appraisal and the compensation of academic staff in the University of Tartu", *Baltic Journal of Management*, Vol. 3 No. 1, pp. 40–54.
216. **Türk, K.; Haldma, T., Kukkemelk, H.; Ploom, K.; Irs, R.; Pukkonen, L.** (2011) Üldharidus- ja kutsekoolide tulemuslikkus ja seda mõjutavad tegurid. Uurimisprojektri aruanne. Tartu Ülikool, Haridus- ja Teadusministeerium, Tartu Ülikooli Multimeedialitus.
217. **Vroom, V., Porter, L., Lawler, E.** (2005), "Expectancy Theories", Miner, J. B. (Ed.), *Organizational Behaviour One: Essential Theories of Motivation and Leadership*, M. E. Sharpe Inc, New York, pp. 94–110.
218. **Walker, R. M., Damanpour, F., Devece, C. A.** (2010 ), "Management Innovation and Organizational Performance: The Mediating Effect of Performance Management", *Journal of Public Administration Research and Theory*, Vol. 21, pp. 367–386.
219. **Webb, R. and Vulliamy, G.** (1998), "External inspection or school self-evaluation? A comparative analysis of policy and practice in primary schools in England and Finland", *British Educational Research Journal*, Vol. 24 Issue 5, pp. 539–557.
220. **Weisbord, M.R.** (1976), "Organizational diagnosis: six places to look for trouble without a theory", *Group and Organization Studies*, Vol. 1, pp. 430–47.



221. **Welbourne, T. M., Balkin, D. B., Gomez-Mejia, L. R.** (1995), "Gainsharing and Mutual Monitoring: A Combined Agency-Organizational Justice Interpretation", *The Academy of Management Journal*, Vol. 38 No. 3, pp. 881–899.
222. **Wellisch, J. B., MacQueen, A. H., Carriere, R. A., Duck, G. A.** (1978), "School Management and Organization in Successful Schools (ESAA In-Depth Study Schools)", *Sociology of Education*, Vol. 51 No. 3, pp. 211–226.
223. What statistical analysis should I use?: Statistical analyses using SPSS, UCLA Academic Technology Services, available at: <http://www.ats.ucla.edu/stat/spss/whatstat/whatstat.htm> (accessed 7 July 2011).
224. **Whitty, G.** (1997), "A Review of Recent Research on Parental Choice and School Autonomy in Three Countries", *Review of Research in Education*, Vol. 22, pp. 3–45.
225. **Williams, J. R. and Levy, P. E.** (1992), "The effects of perceived system knowledge on the agreement between self-ratings and supervisor ratings", *Personnel Psychology*, Vol. 45, pp. 835–847.
226. Winks Statistical Tutorial, Winks SDA, available at: <http://www.texasoft.com/winkmann.html> (accessed 7 July 2011).
227. **Winstanley, D. and Stuart-Smith, K.** (1996), "Policing performance: the ethics of performance management", *Personnel Review*, Vol. 25 No. 6, pp. 66–84.
228. **Wooldridge, B. and Floyd, S. W.** (1990), "The strategy process, middle management involvement, and organizational performance", *Strategic Management Journal*, Vol. 11 Issue 3, pp. 231–241.
229. **Worthington, A. C.** (2001), "An Empirical Survey of Frontier Efficiency Measurement Techniques in Education", *Education Economics*, Vol. 9 No. 3, pp. 245–268.
230. **Wößmann, L. Lüdemann, E., Schütz, G., West, M., R.** (2007), "School Accountability, Autonomy, Choice, and the Level of Student Achievement -International Evidence from PISA 2003", OECD Education Working Papers No. 13.
231. **Wyman, W. and Allen, M.** (2001), „Pay-for-performance: Key Questions and Lessons from Five Current Models“, Education Commission of the States, Denver.
232. Õppeasutuse sisehindamine: Haridus- ja Teadusministeeriumi ja ESFi pilootprojekti „Koolikatsuja 2006+“ raames valminud materjalid õppeasutuste sisehindamise toetamiseks. Toimetanud Maie Kitsing. Tartu: 2008, 151 lk.
233. Üldharidussüsteemi arengukava aastateks 2007–2013. Rahandus-ministeerium, available at: [www.hm.ee/index.php?popup=download&id=5676](http://www.hm.ee/index.php?popup=download&id=5676) (accessed 10 July 2011).
234. Üldhariduse rahastamismudel. Rahandusministeerium, available at: <http://www.fin.ee/index.php?id=75340> (accessed 8 July 2011).



## **APPENDICES**



**Appendix I.** Definitions of performance management by several authors, year published and focus

Focus	Author, year	Definition of performance management
Individual centred view	Rogers, 1990	PM is an integrated set of <i>planning</i> and <i>review</i> procedures which cascade down through the organisation to provide a link between <i>each individual</i> and the <i>overall strategy</i> of the organisation.
	Macaulay and Cook, 1994	It is an approach to management which seeks to <i>harness</i> and <i>focus employee performance</i> . A key visible sign of PM is that each member of a team is able to answer these questions: What is expected of me? How am I doing? What shall I do next? What help do I need to do better?
Organisation centred view	Mwita, 2000	Performance management refers to the <i>integrated, systematic</i> approach to improving <i>organisational performance</i> to achieve an <i>organisation's strategic</i> aims and promote its <i>mission</i> and <i>values</i> .
	Lohman <i>et al.</i> , 2004	PM is an approach that managers perform in order to reach <i>predefined goals</i> that are derived from the company's <i>strategic objectives</i> .
Process centred view	Winstanley and Stuart-Smith, 1996	PM breaks down into three main processes: 1. <i>setting objectives</i> ; 2. <i>managing performance</i> to objectives; and 3. <i>measuring performance</i> against objectives.
	Armstrong, 2000	PM is a process which is designed to <i>improve organisational, team</i> and <i>individual</i> performance and which is owned and driven by <i>line managers</i> .
	Dransfield, 2000	Well-developed performance management includes: a statement outlining the <i>organisation's values</i> ; a statement of the <i>organisation's objectives</i> ; individual objectives which are linked to the organisation's <i>objectives</i> ; regular <i>performance reviews</i> throughout the year (performance appraisal, performance measurement); <i>performance-related pay</i> ; training and counselling.
	Heinrich, 2002	Outcome based PM. Plethora of idioms and acronyms for PM initiatives – planning, programming and budgeting, performance-based budgeting, performance-related pay, performance planning, total organisational performance system, management by objectives, performance measurement. The central purpose of these initiatives is to improve public management and programme outcomes.

Focus	Author, year	Definition of performance management
	Smith and Goddard, 2002	<i>4 components of PM: 1) Formulation of strategy; 2) Development of performance measurement; 3) Application of analytical techniques to interpret such measures; 4) Development of instruments designed to encourage appropriate organisational responses to performance information.</i>
<b>Process centred view</b>	Hartog <i>et al.</i> , 2004	PM deals with the challenge organisations face in <i>defining, evaluating and stimulating</i> employee performance with the ultimate goal of <i>improving organisational performance</i> .
	Kettl and Kelman, 2008	PM is using <i>measures</i> as a tool to <i>improve</i> performance along dimensions measured.
	Soss <i>et al.</i> , 2009	PM is <i>disciplinary</i> , not just in the sense that it involves the allocation of penalties, but also in the deeper sense – the use of organised techniques to produce <i>self-regulating</i> subjects who, under conditions of apparent autonomy, conduct themselves in ways that are consonant with prevailing institutions, values and interests.
	Heinrich, and Marschke, 2009	PM is a system of <i>performance evaluation</i> combined with an <i>incentive system</i> . Rational model for a performance evaluation and incentive system model works when organisational goals and production tasks are known, employee efforts and performance are verifiable, performance information is effectively communicated, and there are a relatively small number of variables for managers to control. However, this approach is stringent, and in the public sector, rarely observed in practice.
	Krishnapillai, 2009	PM is a framework which allows an organisation to analyse its data to make <i>strategic and tactical decisions</i> . PM enables an organisation to <i>define measures</i> and manage performance against <i>strategic goals</i> . Important to define <i>key performance indicators</i> .
	Nunn <i>et al.</i> , 2009	PM focuses on the <i>evaluation and management</i> of the entire organisation's performance. Performance management and evaluation are closely associated with managing organisations objectives. It involves senior managers <i>setting indicators</i> and targets in relation to desired outcomes but allowing local managers the <i>autonomy</i> to innovate to achieve these.

Focus	Author, year	Definition of performance management
	Walker <i>et al.</i> , 2010	PM is associated with <i>setting clear organisational goals, specifying targets</i> and <i>indicators</i> to link goals to performance outcomes, and taking action to influence achievement against targets.
	Mone <i>et al.</i> , 2011	PM can be conceptualised as the overarching framework for <i>guiding managers</i> in their efforts to <i>increase engagement in their organisations</i> . Five PM activities: <i>setting performance and development goals</i> ; providing on-going <i>feedback</i> and <i>recognition</i> ; <i>managing employee development</i> ; conducting mid-year and year-end <i>appraisals</i> ; building a climate of <i>trust and empowerment</i>

Note: PM – performance management. Source: compiled by the author

**Appendix 2.** Examples of studies estimating the relationships between teacher salaries and school performance

Author (year)	Sample, other available information	The research proposition	Results, findings
Ballou and Podgursky (1995)	All colleague graduates in 1972 in USA	Across-the-board increase in teachers' salary levels will significantly improve the prospects of recruiting smarter teachers (teachers with higher SAT scores)	<b>Partly supported:</b> raising teachers' salaries 20% makes only a slight difference.
Hanushek (1997)	Study gathers 90 publications, contains 377 separate production function estimates.	There is a positive link between school resources and pupil performance.	<b>Partly supported:</b> There is no strong or consistent relationship between school resources and pupil performance. However, there is very weak support for the notion that simply providing higher teacher salaries or greater overall spending will lead to improved pupil performance. Pupil's family and peers have an important influence on pupil performance.
Loeb and Page (2000)	State level panel-data (1960–1990), USA. Authors regress pupil high-school drop-out rate on teacher wages 10 years earlier. Only teachers at the age of 20–64 and working at least 26 week during a relevant year were included	There is a positive link between teacher wages and pupil outcomes. Raising teachers' wage would result in lower drop-out rates.	<b>Partly supported:</b> raising teacher wages 10% reduces high school drop-out rates by 3–6%. The cost of raising teachers' salaries may outweigh the positive impact on pupil achievement.
Darling-Hammond (2000)	Data from a 50-state survey of policies (US), state case study analyses, the 1993–94 Schools and Staffing Surveys (SASS), and the National Assessment of Educational Progress.	Policy investments in the quality of teachers are related to improvements in pupil performance.	<b>Supported:</b> State policy surveys and case study data analysis suggests that policies adopted by states regarding teacher education, licensing, hiring and professional development may make an important difference in the qualifications and capacities that teachers bring to their work.



<b>Author (year)</b>	<b>Sample, other available information</b>	<b>The research proposition</b>	<b>Results, findings</b>
Eberts <i>et al.</i> (2002)	Case study – a comparison of two schools in USA: 1) school that implemented merit pay; 2) school that maintained a traditional compensation system. Data used to measure pupil outcomes: 1994/95–1998/99 high school course completion, class attendance, grade point average, passing rates conditional on course completion.	Individual merit pay systems for teachers have a positive effect on pupil outcome.	<b>Supported:</b> After implementing the merit pay system, and rewarding teachers by the outcome of course completion, the course completion percentages rose more than 40%. Merit pay was not offered for higher class attendance and therefore merit pay had little effect on class attendance. Merit pay systems were unrelated to pupil achievement.
Johnson and Birkeland (2003)	Longitudinal interview study. Sample included 50 first and second-year teachers working in a wide range of Massachusetts public schools—urban and suburban; elementary, middle and high; large and small; conventional and charter. Study seeks for respondents' reasons for staying in their schools, moving to new schools, or leaving public school teaching within their first 3 years of teaching.	Teachers' salary is one of the important factors in deciding whether to continue studying.	<b>Supported:</b> broader professional concerns about pay, prestige, and career opportunities continue to figure in individual teacher choices. All respondents argued that they valued their work with pupils, but they were variously dissatisfied with low pay and the lack of public respect for teachers. Therefore, the economic costs of choosing to teach serve as a significant deterrent to staying in that highly demanding profession
Smithers and Robinson (2003)	Research investigates the factors affecting teachers' decisions to leave the profession during the calendar year 2002 in England.	Teachers' salary is one of the important reasons for leaving the profession.	<b>Supported:</b> Five main factors were found to influence teachers' decisions to leave: workload, new challenge, the school situation, salary and personal circumstances. Of these, workload was by far the most important, and salary the least.

Author (year)	Sample, other available information	The research proposition	Results, findings
Rhodes <i>et al.</i> (2004)	Focus group of 7 teachers (from both the primary ( $n = 4$ ) and secondary ( $n = 3$ ) sectors). Additional qualitative survey (368 teachers). Region under research: schools in LEA, where educational standards are below national and statistical neighbour averages in all key stages (16 high schools, 45 primary schools, 3 special schools, one pupil referral unit).	Explore the facets of professional experience which impact directly on teacher satisfaction, dissatisfaction, morale and likely retention. Teacher salary is one of the factors.	<b>Supported:</b> 67% ( $n = 89$ ) of respondents identifying salary as demotivating indicated that this facet was deeply dissatisfying. Higher pay was placed in position No 1 in rank order of factors most likely to lead to retention in the teaching profession in the next five years.
Cavalluzzo (2004)	108,000 individual pupil records collected from Miami-Dade County Public Schools. Each pupil record was linked to his or her subject-area teacher to create a rich data set containing information on teacher characteristics, pupil background and behaviour, and school environment. Pupil gains were then examined in school years 1999–2000 to 2002–2003.	Teachers' professional characteristics impact pupil achievement in mathematics in the ninth and tenth grades.	<b>Supported:</b> Seven of nine indicators of teacher quality that were included in the analyses resulted in appropriately signed and statistically significant evidence of their influence on pupil outcomes. These findings suggest that school systems that wish to target pay increases to teachers of the highest quality can use National Board Certification (NBC) for this purpose.
Rivkin <i>et al.</i> (2005)	Data for three cohorts: 3rd through 7th grade test scores for one cohort (4th graders in 1995) and 4th through 7th grade test scores for the other two (4th graders in 1993 and 1994). For each cohort there are more than 200,000 pupils in over 3,000 public elementary and middle schools	Schools and teachers have an influence on achievement.	<b>Supported:</b> Teachers have powerful effects on reading and mathematics achievement, though little of the variation in teacher quality is explained by observable characteristics such as education or experience. The results suggest that the effects of a costly ten pupil reduction in class size are smaller than the benefit of moving one standard deviation up the teacher quality distribution, highlighting the importance of teacher effectiveness in the determination of school quality.

Author (year)	Sample, other available information	The research proposition	Results, findings
Hanushek and Rivkin (2007)	Data from Texas schools (379 teachers), USA	The level of teachers' salary affects the quality of pupil instruction and pupil achievement.	<b>Party supported:</b> Both wages and pupil characteristics affect teachers' choices and results in a sorting of teachers across schools. Little evidence is found that teachers' transitions are detrimental to pupil learning. Overall salary increases for teachers would be expensive and ineffective – recommended to use performance-related pay.
Kingdon and Teal (2007)	The data set consisted of 902 pupils surveyed across 20 government-funded and 10 private schools, and a sample of 172 teachers for India.	Performance-related pay does have an impact on pupil achievement	<b>Supported:</b> for private schools there is convincing evidence for causation running from teacher's pay to achievement. No statistically significant relationships could be found in the case of government schools.
Figlio and Kenny (2007)	Overall sample: 1,319 public and private schools in USA. Final sample: 534 schools (the rate of response 40%). 4,515 pupils from 12 <sup>th</sup> grade were explored.	There is a positive link between individual teacher incentives and pupil performance	<b>Supported:</b> test scores are higher in schools that offer individual financial incentives for good performance. Moreover, the estimated relationship between the presence of merit pay in teacher compensation and pupil test scores is strongest in schools that may have the least parental oversight.
Atkinson <i>et al.</i> (2009)	Teacher level data, matched with test scores and value-added in England. Sample used data from 18 schools, covering 182 teachers and almost 23,000 pupils.	Payment scheme based on pupil attainment increases teacher effort	<b>Supported:</b> scheme did improve test scores and value added on average by about half a grade per pupil. The results showed that teachers eligible for the incentive payment increased their value -added by almost half a GCSE grade per pupil relative to ineligible teachers, equal to 73% of a standard deviation. Heterogeneity across subject teachers was found, with maths teachers showing no improvement.

Source: compiled by the author

### **Appendix 3.** The questionnaire for school headmasters in Estonian general educational schools\*

#### **Üldhariduskoolide tulemuslikkuse ning seda mõjutavate tegurite analüüs**

Hea koolijuht,

Palun hinnake 5-pallisel skaalal, mil määral nõustute alljärgnevate väidetega:

1 – pole üldse nõus;

2 – pigem pole nõus;

3 – raske hinnata (nii ja naa);

4 – pigem nõus;

5 – täiesti nõus;

0 – ei oma informatsiooni sellele küsimusele vastamiseks/ei oska vastata/ei saa küsimusest aru.

Uuringu käigus saadud andmeid kasutatakse ainult üldistuste tegemiseks ning tulemuste hilisemal avaldamisel teie isikuandmeid ega kooli nime ei kasutata. Küsimustele vastamiseks kulub keskmiselt 30 minutit.

#### **Alljärgnevad küsimused on kooli strateegilise juhtimise kohta.**

1.	Meie koolil on sõnastatud kooli missioon ja visioon.	1 2 3 4 5 0
2.	Oleme oma arengukavas määratlenud kooli võtmetulemused.	1 2 3 4 5 0
3.	Oleme kooli arengukavasse kavandanud kooli pikaajalised investeringuvajadused.	1 2 3 4 5 0
4.	Oleme viimase aasta jooksul teinud kokkuvõtteid kooli arengukava elluviimisest.	1 2 3 4 5 0
5.	Oleme viimase aasta jooksul korrigeerinud kooli arengukava.	1 2 3 4 5 0
6.	Meie kooli töötajad teadvustavad oma rolli kooli arengukava elluviimisel.	1 2 3 4 5 0
7.	Oleme viimase kahe õppeaasta jooksul tutvustanud kooli arengukava täitmist erinevatele huvigruppidele (nt lapsevanemad, kohalik omavalitsus jne).	1 2 3 4 5 0
8.	Arvestame oma tegevuse planeerimisel ühiskonnas toimuvate arengutega (laste arv piirkonnas, ootused koolile, majanduslik keskkond, tööturg, huviharidus, piirkonna arenguplaanid jne).	1 2 3 4 5 0
9.	Muudatused meie kooli igapäevatoos põhinevad senise tegevuse analüüsil.	1 2 3 4 5 0

\* The claims included in this dissertation are marked with grey background.

10.	Kooli tegevuste planeerimisel arvestame õpilaste ja lapsevanemate seas läbiviidud rahulolu-uuringute tulemustega.	1 2 3 4 5 0
11.	Oleme töötajate rahulolu-uuringu tulemusi arvestanud kooli töökorralduse ja järgmise õppeaasta tööplaani koostamisel.	1 2 3 4 5 0
12.1	õpetajad	1 2 3 4 5 0
12.2	õpilased	1 2 3 4 5 0
12.3	lapsevanemad	1 2 3 4 5 0
12.4	kooli pidaja	1 2 3 4 5 0
12.5	hoolekogu	1 2 3 4 5 0
12.6	muu (palun lisage vajadusel)	
13.	Meie koolis on järgmistel huvigruppidel soovi korral kättesaadav teave koolis toimuva kohta:	
13.1	õpetajad	1 2 3 4 5 0
13.2	õpilased	1 2 3 4 5 0
13.3	lapsevanemad	1 2 3 4 5 0
13.4	kooli pidaja	1 2 3 4 5 0
13.5	hoolekogu	1 2 3 4 5 0
13.6	muu (palun lisage vajadusel)	
14.	Kooli juhtkonnaga suhtlemine on meie koolis lihtne.	1 2 3 4 5 0
15.	Meie kooli õpetajad järgivad eetilisi norme ja põhimõtteid.	1 2 3 4 5 0
16.	Kooli juhtkonna liikmed järgivad eetilisi norme ja põhimõtteid.	1 2 3 4 5 0
17.	Tunneme elavat huvi selle vastu, milline on arvamus meie koolist ühiskonnas.	1 2 3 4 5 0
18.	Meie kooli tegemisi on meedias (nt ajalehes, raadios) piisavalt kajastatud.	1 2 3 4 5 0
19.	Peame regulaarset sidet oma vilistlastega.	1 2 3 4 5 0
20.	Meie kooli õpetajad osalevad aktiivselt piirkonna avalikus elus ja kohaliku kogukonna tegevuses	1 2 3 4 5 0
21.	Meie kool väärtustab õpetajate saavutusi erinevates valdkondades rahvusvahelisel, vabariigi, maakonna ja kohaliku omavalitsuse tasandil.	1 2 3 4 5 0

Järgmised küsimused käsitlevad teie kooli ressursside juhtimisega seotud teemasid.

22.	Meie koolis on arengukava (sh tegevuskava) eelarve koostamise aluseks.	1 2 3 4 5 0
23.	Meie kool arendab oma materiaal-tehnilist baasi vastavalt kooli arengukavale.	1 2 3 4 5 0
24.	Investeeringute kavandamisel analüüsitakse nende kasutamise seotud võimalikke täiendavaid tulusid.	1 2 3 4 5 0
25.	Investeeringute kavandamisel analüüsitakse nende kasutamise seotud täiendavaid tegevuskulusid (nt küte).	1 2 3 4 5 0
26.	Meie koolis kasutatakse nii rahalisi kui mitterahalisi ressursse (ruumid, aeg, inimesed) kooskõlas kooli arengukava ja eelarvega.	1 2 3 4 5 0
27.	Kooli eelarve koostamisse on kaasatud järgmised huvigrupid:	
27.1	kohalik omavalitsus	1 2 3 4 5 0
27.2	hoolekogu	1 2 3 4 5 0
27.3	õpetajad	1 2 3 4 5 0
27.4	muu (palun lisage vajadusel)	
28.	Koolil on piisavalt rahalisi vahendeid oma arengukava täitmiseks.	1 2 3 4 5 0
29.	Kooli koostöö kohaliku omavalitsusega kooli rahalise seisundi juhtimisel on väga hea.	1 2 3 4 5 0
30.	Võrdleme riigieelarvest koolile arvestatud vahendite hulka kohaliku omavalitsuse eelarvest koolile eraldatud riigieelarveliste vahendite summaga.	1 2 3 4 5 0
31.	Mulle kättesaadav kuluinformatsioon on oma detailsuselt piisav juhtimisotsuste tegemiseks.	1 2 3 4 5 0
32.	Aasta lõpus on koolil probleeme kulude katmisega, kuna eelarves ettenähtud vahendid on eelnevalt ära kulutatud.	1 2 3 4 5 0
33.	Kohaliku omavalitsuse eelarvehahendite mitte õigeaegne laekumine takistab kooli toimimist.	1 2 3 4 5 0
34.	Kooli rahalisi ressursse kasutatakse efektiivselt.	1 2 3 4 5 0
35.	Kooli ruume ja rajatise saavad õppe- ja kasvatustööst vabal ajal piisavalt kasutada ka teised huvigrupid.	1 2 3 4 5 0
36.	Kool rendib oma pinda välja liiga palju, takistades õppe- ja kasvatustööd, huvitegevust (nt aula, ujula, võimla, arvutiklass, kohvik, söökla, muud ruumid).	1 2 3 4 5 0

37.	Kooli juhtkond saab piisavas ulatuses otsustada renditulude (või muude omatulude) kasutamise üle.	1 2 3 4 5 0
38.	Kooli tegelike kulude kujunemisel on olulised järgmised tegurid:	
38.1	õpilaste arv	1 2 3 4 5 0
38.2	klassikomplektide arv	1 2 3 4 5 0
38.3	koolimaja ruumiline maht	1 2 3 4 5 0
38.4	kooli juhtimine ja haldamine	1 2 3 4 5 0
38.5	muu (palun lisage tegurid, mida peate oluliseks, kuid mis eelnevast loetelust puuduvad)	
39.	Analüüsi ja prognoosi reguleerides oma personalivajadust.	1 2 3 4 5 0
40.	Personali koolituste planeerimisel arvestame iga töötaja enesetäiendamise vajadustega.	1 2 3 4 5 0
41.	Meie koolis toimub õpetajate arendamine koolituskava alusel.	1 2 3 4 5 0

Järgmised väited esitatakse *õpetajate töö* hindamise kohta teie koolis, mille käigus antakse hinnang õpetajate tegevusele, töömahule ja töötulemustele. Õpetajate töö hindamisel määratakse kindlaks nende tööalane edukus ning selle vastavus püstitatud eesmärkidele.

42.	Õpetajate töötulemuste ja tegevuse koolisisene hindamine on meie koolis korraldatud süsteemselt.	1 2 3 4 5 0
43.	Meie koolis rakendatav õpetaja töö hindamissüsteem ja selle põhimõtted on arusaadavad.	1 2 3 4 5 0
44.	Meie koolis kaasatakse õpetajaid piisavalt oma töö hindamissüsteemi väljakujundamisse.	1 2 3 4 5 0
45.	Õpetaja töö hindamisel on otsene mõju tema töötulemustele.	1 2 3 4 5 0
46.	Meie koolis rakendatav õpetajate hindamissüsteem võimaldab hinnata õpetaja tööd õiglaselt.	1 2 3 4 5 0
47.	Õpetaja töö hindamisprotsess lõpeb hindamis-arenguevestlusega.	1 2 3 4 5 0
48.	Õpetajale antav tagasiside tema töö kohta on piisav.	1 2 3 4 5 0
49.	Kooli lõpuklasside õpilaste tagasiside on õpetajate töö hindamissüsteemi koostisosa.	1 2 3 4 5 0

Alljärgnevalt on esitatud õpetajate tööd iseloomustavad näitajad, millele vastates andke palun esmalt hinnang nende rakendatavuse kohta teie koolis (vastusevariantidega *jah, ei* või *ei tea*). Seejärel hinnake kõigi näitajate otsustatavusest õpetajate töö hindamisel 5-pallilisel skaalal.

50.	Osalemine kooli juhtimisel (õppenõukogu, hoolekogu ja ainekomisjonid)	
	Rakendatakse meie koolis	Jah, ei, ei tea
	On otsustatav rakendada õpetajate töö hindamisel	1 2 3 4 5 0
51.	Osalemine kooli arendamises (EL projektid, koolidevahelised üritused, esinemised seminaridel jt)	
	Rakendatakse meie koolis	Jah, ei, ei tea
	On otsustatav rakendada õpetajate töö hindamisel	1 2 3 4 5 0
52.	Noorte õpetajate juhendamine	
	Rakendatakse meie koolis	Jah, ei, ei tea
	On otsustatav rakendada õpetajate töö hindamisel	1 2 3 4 5 0
53.	Koostöö kolleegidega	
	Rakendatakse meie koolis	Jah, ei, ei tea
	On otsustatav rakendada õpetajate töö hindamisel	1 2 3 4 5 0
54.	Koostöö lapsevanematega	
	Rakendatakse meie koolis	Jah, ei, ei tea
	On otsustatav rakendada õpetajate töö hindamisel	1 2 3 4 5 0
55.	<b>Õppemetoodiline töö</b> (õppematerjalid, -vahendid, -metoodika)	
	Rakendatakse meie koolis	Jah, ei, ei tea
	On otsustatav rakendada õpetajate töö hindamisel	1 2 3 4 5 0
56.	Õpetaja esinemine ja õppetöö näitlikustamine tunnis	
	Rakendatakse meie koolis	Jah, ei, ei tea
	On otsustatav rakendada õpetajate töö hindamisel	1 2 3 4 5 0
57.	Õppeaine sisu seostamine praktikaga ja teiste ainetega	
	Rakendatakse meie koolis	Jah, ei, ei tea
	On otsustatav rakendada õpetajate töö hindamisel	1 2 3 4 5 0
58.	Õpetaja tegelik nädala koormus	
	Rakendatakse meie koolis	Jah, ei, ei tea
	On otsustatav rakendada õpetajate töö hindamisel	1 2 3 4 5 0



59.	Õpetatavate õpilaste arv	
	Rakendatakse meie koolis	Jah, ei, ei tea
	On otstarbekas rakendada õpetajate töö hindamisel	1 2 3 4 5 0
60.	Hariduslike erivajadustega õpilaste arv klassis/rühmas	
	Rakendatakse meie koolis	Jah, ei, ei tea
	On otstarbekas rakendada õpetajate töö hindamisel	1 2 3 4 5 0
61	Motiveeriva ja loova õpikeskkonna loomine klassis (õpimiljö, klassiruumi õhkkond)	
	Rakendatakse meie koolis	Jah, ei, ei tea
	On otstarbekas rakendada õpetajate töö hindamisel	1 2 3 4 5 0
62.	Õpiedu puudutava tagasiside andmine õpilastele	
	Rakendatakse meie koolis	Jah, ei, ei tea
	On otstarbekas rakendada õpetajate töö hindamisel	1 2 3 4 5 0
63.	Suhtlemine ja läbisaamine õpilastega	
	Rakendatakse meie koolis	Jah, ei, ei tea
	On otstarbekas rakendada õpetajate töö hindamisel	1 2 3 4 5 0
64.	Klassivälise tegevuse juhendamine (huviringid, kasvatustöö)	
	Rakendatakse meie koolis	Jah, ei, ei tea
	On otstarbekas rakendada õpetajate töö hindamisel	1 2 3 4 5 0
65.	Õpetajate tegevus õpilaste järeleaitamisel õppeaine omandamisel	
	Rakendatakse meie koolis	Jah, ei, ei tea
	On otstarbekas rakendada õpetajate töö hindamisel	1 2 3 4 5 0
66.	Õpilaste edasine haridustee (sissepääs kõrgkooli või kutsekooli, toimetulek selles)	
	Rakendatakse meie koolis	Jah, ei, ei tea
	On otstarbekas rakendada õpetajate töö hindamisel	1 2 3 4 5 0
67.	Õpilaste õpitulemused (riigieksamite tulemused, piirkondlikud ja kohalikud tasemetööd)	
	Rakendatakse meie koolis	Jah, ei, ei tea
	On otstarbekas rakendada õpetajate töö hindamisel	1 2 3 4 5 0
68.	Õpilaste tulemused olümpiaadidel, näitustel ja võistlustel	
	Rakendatakse meie koolis	Jah, ei, ei tea
	On otstarbekas rakendada õpetajate töö hindamisel	1 2 3 4 5 0

69.	Õpetajate töödistsipliin (dokumentatsioon, tööplaanist kinni pidamine)	
	Rakendatakse meie koolis	Jah, ei, ei tea
	On otstarbekas rakendada õpetajate töö hindamisel	1 2 3 4 5 0
70.	Muu (palun lisage, kui peate veel midagi oluliseks, mis loetelust puudub)	

Alljärgnevad väited on õpetajate *tulemustasustamise* ning selle aluseks olevate näitajate kohta. Tulemustasustamine on palgavorm, mis arvestab õpetajate töötasustamisel nende tegevuse ja töötulemustega. Tulemustasustamise koostisosadeks on lisaks põhipalgale ka lisatasu, tulemustasu, preemia või muu rahaline tasu.

71.	Töötulemustepõhine tasustamine on õpetajatele motiveeriv.	1 2 3 4 5 0
72.	Töötulemustepõhine tasustamine toetab kooli eesmärkide saavutamist.	1 2 3 4 5 0
73.	Õpetajate töö tasustamisel lähtutakse meie koolis vaid normtundidest ja ametipalgast.	1 2 3 4 5 0
74.	Meie kool rakendab õpetajate tasustamisel tulemustasustamist (kui ei, siis palun jätke vahele kaks järgmist küsimust).	1 2 3 4 5 0
75.	Õpetajate töötulemustepõhine tasustamine on meie koolis õiglane.	1 2 3 4 5 0
76.	Palun loetlege vähemalt kolm kõige olulisemat tegevust ja/või tulemust, millest lähtutakse teie koolis õpetajate tulemustasustamisel:	
	1)	
	2)	
	3)	
77.	Minu arvates oleks meie koolis otstarbekas õpetajate tulemustasustamisel lähtuda alljärgnevatest näitajatest (tegevustest, tulemustest):	
77.1	osalemine kooli juhtimisel (õppenõukogu, hoolekogu ja ainekomisjonid)	1 2 3 4 5 0
77.2	osalemine kooli arendamises (EL projektid, koolidevahelised üritused, esinemised seminaridel jt)	1 2 3 4 5 0
77.3	noorte õpetajate juhendamine	1 2 3 4 5 0

77.4	õppemetoodiline töö (õppematerjalid, -vahendid, -metoodika)	1 2 3 4 5 0
77.5	õpetaja tegelik nädala koormus	1 2 3 4 5 0
77.6	keskmine õppetühma suurus	1 2 3 4 5 0
77.7	õpetatavate hariduslike erivajadustega õpilaste arv	1 2 3 4 5 0
77.8	klassivälise tegevuse juhendamine (huviringid, kasvatustöö)	1 2 3 4 5 0
77.9	õpetajate tegevus õpilaste järeleaitamisel õppeaine omandamisel	1 2 3 4 5 0
77.10	õpilaste õpitulemused (riigieksamite tulemused, piirkondlikud ja kohalikud tasemetööd)	1 2 3 4 5 0
77.11	õpilaste tulemused olümpiaadidel, näitustel ja võistlustel	1 2 3 4 5 0
77.12	muu (palun lisage, kui peate veel midagi oluliseks, mis loetelust puudub)	1 2 3 4 5 0

Järgmised küsimused on õppe- ja kasvatusprotsessi kohta teie koolis.

78.	Olen rahul kooli poolt pakutava haridusega.	1 2 3 4 5 0
79.	Olen rahul õpetamise kvaliteediga meie koolis.	1 2 3 4 5 0
80.	Meie õpilastele meeldib koolis käia.	1 2 3 4 5 0
81.	Õpilased saavad aru, mida õpetajad neilt ootavad.	1 2 3 4 5 0
82.	Meie koolis julgustatakse õpilasi andma endast parimat.	1 2 3 4 5 0
83.	Meie õpilased järgivad koolis kehtestatud reegleid.	1 2 3 4 5 0
84.	Meie õpetajad hoolivad õpilastest.	1 2 3 4 5 0
85.	Meie koolis kohtlevad õpetajad õpilasi õiglaselt.	1 2 3 4 5 0

Järgmised väited käsitlevad kooli tulemuslikkusega seotud näitajaid.

86.	Meie koolis saab õpilane alati oma murega õpetaja poole pöörduda.	1 2 3 4 5 0
87.	Meie koolis õpivad õpilased seda, mida neil on tarvis elus edukaks toimetulekuks.	1 2 3 4 5 0
88.	Meie koolis kohtlevad õpilased üksteist hästi.	1 2 3 4 5 0
89.	Meie koolis lähtutakse õpetamisel õpilase individuaalsetest võimetest.	1 2 3 4 5 0
90.	Meie koolis lähtutakse tugiteenuste kavandamisel õpilaste vajadustest.	1 2 3 4 5 0

91.	Meie koolis tegeldakse piisavalt õpilase huvide ja andekuse arendamisega.	1 2 3 4 5 0
92.	Meie koolis pakutavad valikained vastavad õpilaste soovidele.	1 2 3 4 5 0
93.	Meie koolis analüüsitakse süsteemselt iga õpilase õpiedu (edasijõudmist veerandite, õppeaastate lõikes)	1 2 3 4 5 0
94.	Meie koolis analüüsitakse süsteemselt iga õpilase üldoskuste arengut.	1 2 3 4 5 0
95.	Õpilase arenguestlusel on oluline roll tema õppeedukuse tõstmisel.	1 2 3 4 5 0
96.	Õpilase arenguestlusel meie koolis osaleb tavaliselt ka lapsevanem.	1 2 3 4 5 0
97.	Oleme koolielu korraldamisel (tunnid, vahetunnid, klassiväline tegevus) arvestanud õpilaste soovide ja ettepanekutega.	1 2 3 4 5 0
98.	Toetame õpilaste osalemist olümpiaadidel, võistlustel, näitustel, konkurssidel jne.	1 2 3 4 5 0
99.	Meie kooli õpetajad kasutavad piisavalt kaasaegseid (arvutipõhiseid, aktiveerivaid, isiksusekeskseid jne) õpetamis- ja kasvatusmeetodeid.	1 2 3 4 5 0
100.	Meie kool on õpilaste arengu igakülgseks toetamiseks teinud piisavalt koostööd järgmiste huvigruppidega (üritused, projektid, ressursside hankimine):	
100.1	lasteaiad (nt eelkool, laste koolikülastused, tutvustus)	1 2 3 4 5 0
100.2	järgneva kooliastme õppeasutused (nt sisseastumistingimused, õpilaste nõustamine edasiõppimise osas)	1 2 3 4 5 0
100.3	lapsevanemad (nt klassiväline tegevus, rahaline toetamine, lapse arenguestlus)	1 2 3 4 5 0
100.4	õpilased (nt üritused, kooliraadio, -ajaleht, konkursid, õpilaste omaalgatuslik tegevus)	1 2 3 4 5 0
100.5	kohalik omavalitsus (nt eelarve kujunemine, arenguplaanide kooskõlastamine, lobitöö)	1 2 3 4 5 0
100.6	meedia (nt ajakirjandus, raadio)	1 2 3 4 5 0
100.7	teised koolid (nt personali vahendamine, mobiilsus, sõpruskoolid, ka välismaal)	1 2 3 4 5 0
100.8	ettevõtted (nt sponsorlus, ühisüritused, töökohtade tutvustus, praktikakohad jne)	1 2 3 4 5 0

	100.9	muu (palun lisage partnereid, keda peate veel oluliseks)	1 2 3 4 5 0
101.		Meie koolis analüüsitakse järgmisi näitajaid:	
	101.1	õpilaste arv õpetaja kohta	1 2 3 4 5 0
	101.2	klasside täituvus koolis	1 2 3 4 5 0
	101.3	õpilasi ühe arvutiklassi arvuti kohta	1 2 3 4 5 0
	101.4	õpetajaid ühe õpetaja tööarvuti kohta	1 2 3 4 5 0
	101.5	kooli kogukulu õpilase kohta	1 2 3 4 5 0
	101.6	riigieelarvest koolile arvestatud vahendite summa (õpilase kohta)	1 2 3 4 5 0
	101.7	õpetajate osalemine täiendkoolitustel	1 2 3 4 5 0
	101.8	õpetajate voolavus	1 2 3 4 5 0
	101.9	õpetajate rahulolu-uuringute tulemused	1 2 3 4 5 0
	101.10	õpetaja kutse-eeetika rikkumised	1 2 3 4 5 0
	101.11	lapsevanemate rahulolu uuringute tulemused	1 2 3 4 5 0
	101.12	lapsevanemate ligipääs E-koolile	1 2 3 4 5 0
	101.13	muu (palun lisage näitajad, mida peate veel oluliseks)	
102.		Meie koolis analüüsitakse järgmisi õppe- ja kasvatustöö tulemusi:	
	102.1	õppe tulemuslikkus aineti (hinded)	1 2 3 4 5 0
	102.2	klassikursuse kordajate arv	1 2 3 4 5 0
	102.3	põhjuseta puudumiste arv õpilase kohta	1 2 3 4 5 0
	102.4	koolikohustuse mittetäitjate osakaal põhikooli õpilaste arvust	1 2 3 4 5 0
	102.5	tugisüsteemide rakendamise mõju õpilase õpiedule	1 2 3 4 5 0
	102.6	riigieksamite tulemused (keskmine tulemus võrrelduna üleriigilise keskmisega)	1 2 3 4 5 0
	102.7	tasemetööde tulemused (keskmine tulemus võrrelduna üleriigilise keskmisega)	1 2 3 4 5 0
	102.8	õpilaste väljalangevus põhikoolist	1 2 3 4 5 0
	102.9	õpilaste väljalangevus gümnaasiumist (keskkoolist)	1 2 3 4 5 0
	102.10	edasiõppijate osakaal põhikooli/gümnaasiumi lõpetajate koguarvust	1 2 3 4 5 0

102.11	oma kooli huviringides osalevate õpilaste osakaal	1 2 3 4 5 0
102.12	õpilaste rahulolu-uuringute tulemused	1 2 3 4 5 0
102.13	muu (palun lisage tegurid, mida peate veel oluliseks)	
103.	Meie kooli kõige tugevam külg on:	
104.	Meie kooli kõige nõrgem külg on:	
105.	Kooli tulemuslikkuse kolm kõige olulisemat näitajat on:	
	1)	
	2)	
	3)	

Palun vastake järgmistele küsimustele:

Kooli nimi:	
Olen:	Mees Naine
Vanus:	Alla 33 aasta 33–42 aastat 43–53 aastat 53–62 aastat 63 aastat ja vanem
Pedagoogiline staaž:	Kuni 5 aastat 5–10 aastat 11–20 aastat 21 ja rohkem aastat
Tööstaaž selles koolis:	Kuni 5 aastat 5–10 aastat 11–20 aastat 21 ja rohkem aastat

#### **Appendix 4. The principles of operation for Estonian general educational schools**

The activity of Estonian general educational schools is regulated by the Primary Schools and Secondary Schools Act (Põhikooli- ja gümnaasiumiseadus, 2010). The act regulates the basis for organising the learning process, ascertains the rights and responsibilities of the pupils, the parents, the schools and the school keepers and describes the basics of financing schools and implementing state surveillance. The act regulates the activities of both municipal schools (administered by local authorities) and state schools (administered by the Estonian Ministry of Education and Research).

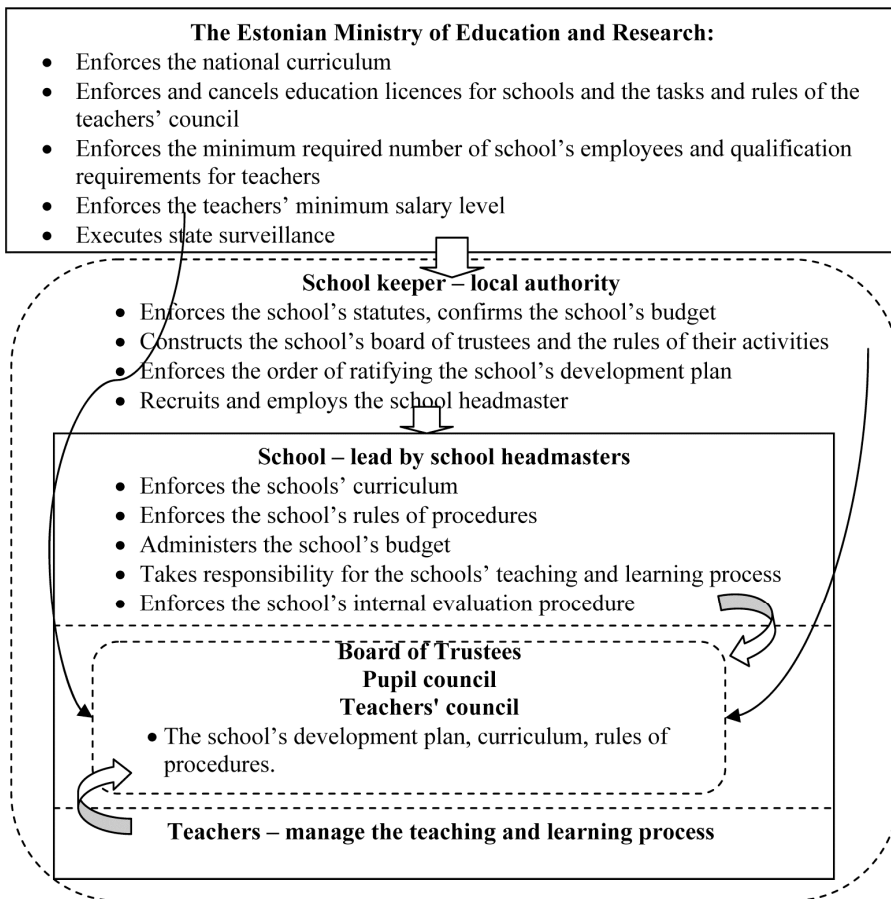
In Estonia, general education consists of the primary school and secondary school levels. Primary school is a general educational school that creates the possibilities for gaining primary education and school obligation. The estimated time for achieving the fulfilment of the primary school curricula is nine years. There are three main school levels in primary schools:

- 1) I school level – 1<sup>st</sup>–3<sup>rd</sup> grade;
- 2) II school level – 4<sup>th</sup>–6<sup>th</sup> grade;
- 3) III school level – 7<sup>th</sup>–9<sup>th</sup> grade.

Secondary school is the educational level that follows primary school. The nominal study period in this school level is three years. Secondary school creates the possibilities for obtaining general and secondary education. The current dissertation explains the education system on the example of municipal schools (see Figure). Municipal schools are schools that are established by the council of the local authority. Therefore, unlike private and national schools, in the case of municipal schools, the local authority has taken the role of education provider.

According to the laws of the Republic of Estonia, the Estonian Ministry of Education and Research is the institution responsible for developing educational policy in Estonia (Haridus- ja Teadusministeeriumi põhimäärus, 2009). The ministry implements the national curriculum, enforces and cancels educational licences for schools as well as the tasks and rules of the teachers' councils, determines the minimum required number of employees in schools and the minimum requirements for school teachers. In addition, it enforces the teachers' minimum salary level and executes state surveillance over schools. Likewise, the national curriculum developed by the ministry is a framework for building up the whole education system. It consists of learning objectives, expected learning outcomes, rules and procedures for evaluating pupils, requirements for the learning environment, organising the learning process and graduation, but also sets requirements for the schools' curricula and subjects taught.

As the ministry develops the framework and requirements for the Estonian education sector, it also has the obligation to execute surveillance over the teaching and learning process in Estonian schools. During surveillance, the teaching and learning process and their adherence to the law is checked.



**Figure.** The scheme of the Estonian education system based on general educational schools (municipal schools)

Source: Compiled by the author based on Põhikooli- ja gümnaasiumiseadus, 2010

Likewise, the task of surveillance is to analyse the problems in implementing the act of law during the learning and teaching process, and if necessary, modify the act of law. The school keepers in the Estonian education sector are mostly local authorities. Therefore, schools are mostly established by local authorities, but the Ministry of Education and Research enforces and cancels education licences for schools. Local authorities also enforce school statutes as the basis of their activities, enforce the order to ratify a school's development plan and recruits and employs school headmasters. In addition, it constructs a school's board of trustees, determines the rules and procedures for the board's activities and confirms the school's budget. The implementation of Estonian educational strategies and plans takes place at the school level. Therefore, the quality of the Estonian education sector is dependent on each school's quality in Estonia. Therefore, school headmasters as the leaders and managers of Estonian schools have a great responsibility in achieving quality. School headmasters take



responsibility for the teaching and learning process, other activities implemented in school, a school's general shape and development and the rightful and rational use of monetary resources under their jurisdiction (Põhikooli- ja gümnaasiumiseadus, 2010). The school headmaster represents the school and acts in its interests, manages the school's budget, enforces the school's rules of procedure and enforces the school's internal evaluation process. It is also essential to emphasise that school headmasters enforce the school's curriculum as well. A school's curriculum certainly follows the main streams pointed out in the national curriculum, but they have considerable autonomy in developing the school's own learning and teaching process.

However, in addition to a headmaster, school management decisions are shaped by several boards compiled from the members of the school's interest groups as well. For example, before enforcing the school's curriculum, rules and procedures and the school's development plan, they must be submitted to the board of trustees, the pupil council and the teachers' council for their comments. It is also important to note that compiling a development plan for a school must be based on the result of the schools internal evaluation reports. Internal evaluation reports are composed by school headmasters, but before enforcing them, the board of trustees, teachers' council and pupil council have the right to make comments.

The teachers' council consists of the school's headmaster, head teachers, teachers, assistant teachers and others involved in the teaching and learning process (Põhikooli- ja gümnaasiumiseadus, 2010). The tasks of the teachers' council involve organising, analysing and evaluating the teaching and learning process under their jurisdiction and making decisions necessary for school administration. However, the tasks of the teachers' council are enforced by the Estonian Ministry of Education and Research.

The board of trustees in primary schools involves the school keeper (a representative of the local authority), the teachers' council and the representatives of parents, alumni and organisations that support schools. It is worth mentioning that the representatives of parents, alumni and other organisations are the majority of the members of the school's board of trustees. If the primary school has a pupil council, then a representative of the pupil council is also a member of the board of trustees. In secondary schools in addition to the aforementioned, a representative of pupils is a compulsory member of the board of trustees. The board of trustees is a

permanently performing body, which aims to coordinate the activities and effort of pupils, pedagogues, school keepers, parents and supportive organisations in directing, planning and monitoring teaching and learning. In addition, it develops better conditions for teaching and learning and provides estimates for the school's budget plan (Põhikooli- ja gümnaasiumiseadus, 2010). The school headmaster is accountable before the board of trustees and both pupils and parents have the right to turn to the board concerning teaching and learning.

## **Appendix 5. School financing and budget**

Each school has its own budget and the school headmaster is responsible for administering the budget rationally and rightfully. The revenues of municipal general educational schools in Estonia consist of the following:

- assignments from the government budget;
- assignments from the budget of the local authority;
- income from legal persons;
- donations;
- revenues from extra-curricular activities prescribed in the school's statute;
- assignments from other municipalities whose pupils are educated in those schools.

Therefore, schools total revenues are determined by assignments from the government budget and local authority's budget, income from legal persons, donations and revenues from extra-curricular activities that are prescribed in the school's statute. However, the most sizeable part of the budget is determined by the assignments from the government budget. The grant-in-aid from the state budget is calculated at the governmental level and is allocated to local authorities as a lump sum. Local authorities have the power to decide the specific allocation of the monetary resources between different schools and within the schools. The scheme for calculating the financing of educational costs of local authorities is presented in Table.

The financing scheme for educational costs in Estonia is based on the costs of pupil, class, school level, school, local authority and curriculum. The financial means are provisionally divided into two groups (Üldhariduse rahastamismudel, 2011). Firstly, the uniform and constant costs that emanate from executing the education policy and legislation. For instance, the minimum salary level of teachers, minimum increment for homeroom teachers and the volume of curriculum are enacted by legislation. In the context of this dissertation it is important to note that teacher salary levels in the Estonian education system are determined by the teachers' occupational levels. However, the salary level on a certain occupational level is agreed upon between the government, the representatives of the associations of local authorities and teaching unions. The agreed salary level is confirmed by the government. If agreement has not been achieved, then the government will decide and enforce the minimum salary level itself.

Secondly, educational costs consist of the costs that are related to local peculiarities and decisions taking into consideration the environment within which the school operates, the characteristics of pupils, teachers and so on, that are characteristic for this region. The purpose of this approach is to guarantee equal opportunities for every school in Estonia.

**Table.** The scheme for calculating the financing of the educational cost for local authorities

		<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Financing</b>		<b>Grant-in-aid</b>		
			Head money	Additional financing	TOTAL
1	Regular class	I & II school level	x	x	B1+C1
2		III school level	x	x	B2+C2
3		Secondary school	x	-	B3
4		Language immersion	x	-	B4
5		Supplement for homeroom teacher	x	-	B5
6	SEN	I–III school level and secondary schools	x	x	B6+C6
7		Supplement for homeroom teacher	x		B7
8	Evening	Evening and distance learning	x	-	B8
9		Supplement for homeroom teacher	x	-	B9
10	Supplement grant-in-aid	Additional financing for SEN pupils	-	x	C10
11		Administrative costs	x	-	B11
12		Supplement for special case	-	x	C12
13		Learning in Estonian in Russian speaking classes			A13
14		Teacher-supervisors			A14
15		Learning in prison			A15
16		Learning in hospital			A16
17		Subsidiary for consolidation			A17
18		Compensation for decrease			A18
19	<b>Means for salary TOTAL</b>		<b>Sum (B1:B12)</b>	<b>Sum (C1:C12)</b>	<b>B19+C19</b>
20	Other	Text books			A20
21		Learning materials (incl. workbooks)			A21
22		Investments			A22
23		Events for pupils			A23
24		Subject sections			A24
25		Schooling for pre-school teachers			A25
26		RESERVE			A26
	<b>SUM TOTAL</b>				<b>Sum(D19:D26)</b>

Note: SEN – learning process related to teaching pupils with special educational needs; Evening – learning process related to evening and distance learning; The formulas in the table are entered taking into consideration the row numbers and column letters

Source: compiled by the author based on Üldhariduse rahastamismudel, 2011

The size of the grant-in-aid is primarily dependent on the number of pupils studying in the municipal school and on the estimated operating costs of a study place. In addition, the state may offer grant-in-aid for covering transportation, accommodation or other costs of pupils as well. The per capita money allocated to schools is calculated according to the school level that the pupils are studying at. Per capita money is calculated with the aim of covering the teaching costs of a class. Therefore, it covers teachers' salaries based on occupational level and workload, taxes (social security tax, unemployment insurance) and means for schooling (textbooks, workbooks etc.). However, it is also important to note that separate calculations are executed in the case of language immersion classes and classes where the number of pupils does not exceed the expected quota to cover the teaching costs of the classroom. Additional financing is offered for teaching pupils with special educational needs.

The financing scheme of the Estonian education sector includes subsidies for homeroom teachers, resources for ensuring teachers-supervisors' salary and supplements for administrative costs. The extra increment for homeroom teaching is calculated based on the teachers current salary level allowing a 10% bonus for teaching one estimated classroom (in primary schools the estimated size of the class is 24 pupils, in secondary schools 36 pupils). An additional subsidy is calculated for homeroom teaching evening classes and pupils with special educational needs. When rewarding teacher-supervisors, an additional sum of money is calculated based on the difference between the pedagogues' salary level and the teacher-supervisors' salary level. The number employed in the school administration and their salary level is decided by local authorities. However, supplementary grant-in-aid for school administration costs is calculated based on pupils and the number of classes in the school.

The current financial scheme allows complementary financing for schools operating in special circumstances; for example, schools that need preservation because they offer compulsory education in geographically difficult areas. Likewise, these schools need additional financing because of the difficulties in finding qualified teachers. Similarly, additional financing is offered for the consolidation of schools. The amount of grant-in-aid for textbooks, learning materials and investments is calculated based on the number of pupils in the local authority. Additional resources are allocated for learning in hospital and prison.

It is important to note that if possible on the basis of the current government budget, the per capita money is rounded allowing additional finances for local authorities managing educational costs. This allows school keepers to make the following decisions based on local needs (Üldhariduse rahastamismudel, 2011):

- 1) Decisions directed to pedagogues and headmasters: raising salaries, differentiating salaries, lowering the work load, guaranteeing salary increases for teachers with higher occupational levels, raising schooling costs.
- 2) Decisions directed to pupils: offering additional teaching for pupils with lower academic performance, increasing the number of subjects taught,

developing pupils with special talent, offering more text books and other learning materials, involving pupils with special educational needs.

3) Decisions directed to school: making investments.

However, the availability of finances is dependent on the load of the school. A higher load school increases the availability of financial resources, and therefore, raises the average salary level as well. But it is also important to note that other municipalities participate in the finance process if their citizens are studying in those schools. Similarly, the proportion of the sum financed is dependent on the number of pupils and the estimated operating costs of the study place. However it is worth mentioning that the Estonian Ministry of Education and Research enforces the marginal rate of monthly operating costs per study place.

**Appendix 6.** Size and composition of the sample of the main research conducted in Estonian general educational schools with the respect to age, pedagogical experience, working experience in school, weekly workload, occupational level, qualification

	<b>Headmasters</b>	<b>Teachers</b>	<b>Total</b>
<b>Age</b>			
Under 33	13 (4.4%)	306 (14.1%)	319 (13%)
33–42	57 (19.1%)	491 (22.7%)	548 (22.2%)
43–52	123 (41.3%)	731 (33.8%)	854 (34.7%)
53–62	92 (30.9%)	541 (25%)	633 (25.7%)
63 and older	13 (4.4%)	88 (4.1%)	101 (4.1%)
Missing	-	8 (0.4%)	8 (0.3%)
<b>Pedagogical experience</b>			
Less than 5 years	28 (9.4%)	303 (14%)	331 (13.4%)
5–10 years	12 (4%)	272 (12.6%)	284 (11.5%)
11–20 years	80 (26.8%)	554 (25.6%)	634 (25.7%)
21 and more years	178 (59.7%)	1,026 (47.7%)	1,204 (48.9%)
Missing	-	10 (0.5%)	10 (0.4%)
<b>Working experience in their school</b>			
Less than 5 years	89 (29.29%)	537 (24.8%)	626 (25.4%)
5–10 years	54 (18.1%)	460 (21.2%)	514 (20.9%)
11–20 years	77 (25.4%)	555 (28.6%)	632 (25.7%)
21 and more years	78 (26.2%)	606 (28%)	684 (27.8%)
Missing	-	7 (0.3%)	7 (0.3%)
<b>Weekly workload</b>			
18 and more hours	N/A	1,657 (76.5%)	1,657 (76.5%)
9–17 hours		362 (6.7%)	362 (6.7%)
up to 8 hours		136 (6.3%)	136 (6.3%)
Missing		10 (0.5%)	10 (0.5%)
<b>Occupational level</b>			
Teacher-supervisor	N/A	125 (5.8%)	125 (5.8%)
Senior teacher		399 (18.4%)	399 (18.4%)
Teacher		1,495 (69.1%)	1,495 (69.1%)
Junior teacher		78 (3.6%)	78 (3.6%)
Missing		68 (3.1%)	68 (3.1%)
<b>Qualification</b>			
Specialised-pedagogical	N/A	1,499 (69.2%)	1,499 (69.2%)
Pedagogical		466 (21.5%)	466 (21.5%)
Specialised		115 (5.3%)	115 (5.3%)
Missing		85 (3.9%)	85 (3.9%)

Note: Percentages in the table indicate the percentage of respondents of the particular subsample; N/A – not asked in questionnaire; Missing – answers with the value of “0” and no answer  
Source: compiled by the author

## **Appendix 7. An example of the questionnaire in the case studies**

### Teacher performance appraisal

1. How is teacher appraisal related to school development and management decisions?
2. What are the pros and cons of the teacher performance appraisal system implemented in your school? To what extent and how should teacher performance appraisal implemented in your school be changed?
3. How are development interviews with teachers performed in your school? How do you evaluate the quality of feedback given to teachers about their competence, behaviour and work performance?
4. How and to what extent are teachers involved in the development of teacher performance appraisal? Do teachers have an opportunity to express their opinions about the performance appraisal system implemented for appraising their performance? What has the school done in order to guarantee fairness and understanding of the principles of teacher performance appraisal?
5. How and to what extent are the results of teacher performance appraisal introduced to other teachers? How are the performance appraisal results that are below standard introduced to teachers? How are they motivated to develop and improve their performance?
6. To what extent is feedback from senior pupils on the performance of teachers taken into consideration?

### Teachers' performance-related pay

1. Based on what are teachers rewarded in your school? To what extent is performance-related pay implemented in your school? What are the performance-related pay criteria that form the basis of teacher remuneration? If performance-related pay is not implemented, why not?
2. How and based on what was performance-related pay developed in your school? Were teachers involved in the development process?
3. What are the pros and cons of the performance-related pay implemented in your school? What can be done in order to improve it?
4. How does the size of the class and the teacher's actual weekly workload influence performance? What is their importance in teacher performance-related pay.

## Appendix 8. The results of the case studies

	School No. 1	School No. 2	School No. 3
	Description of school Number of pupils: over 200 School specialisation: sciences School type: secondary school (including primary school)	Description of school Number of pupils: over 200 School specialisation: sciences School type: secondary school (including primary school)	Description of school Number of pupils: over 200 School specialisation: humanitarian (languages) School type: secondary school (including primary school)
	Teachers' PA		
1. Relationships between PA and school development and management	<p><b>Headmaster:</b> During appraisal teacher <i>participation in school development</i> is appraised</p> <p>Teachers: PA results are considered in making <i>school management decisions</i> (T1;T2; T3). Keywords of usage of PA in school management:</p> <ul style="list-style-type: none"> <li>• Schooling decisions (T1);</li> <li>• Need for change (T1; T3);</li> <li>• Planning teachers work load (T2)</li> <li>• Making decisions whom to involve into school management (T2)</li> <li>• Feedback about school management</li> </ul>	<p><b>Headmaster:</b> Formal PA is not implemented because of teachers' high motivation.</p> <p>Teachers: PA issues from schools' development plan (T1) PA results are used for <i>making school management decisions</i> (T1; T2; T3). Keywords in use of PA results:</p> <ul style="list-style-type: none"> <li>• Making school development plan (T1; T3)</li> <li>• Feedback about school management (T2)</li> <li>• Involves teachers in school management, because during PA school managerial aspects are considered (T2)</li> <li>• Planning teachers' work load (T3)</li> </ul> <p>Other comments: PA supports school management only when teachers do not feel <i>controlled</i> (T3). The importance of <i>trust</i> during PA (T3)</p>	<p><b>Headmaster:</b> PA is related to school management through <i>compulsory internal evaluation</i> when teachers perform their <i>self-evaluation</i>.</p> <p>Teachers: PA is done through <i>self-evaluation which</i> is part of internal evaluation (T1;T2;T3) PA is becoming more linked to school management (T1; T2)</p>



	School No. 1	School No. 2	School No. 3
2. Pros and cons of PA. Needs for change.	<p>Headmaster: Pros: PA <i>fulfils its objective</i>, internal evaluation is related to teachers <i>self-evaluation</i>, multi-faceted PA system (<i>variety of criteria and source of information</i>) Cons: PA principles are not documented, government evaluation system does not answer to pupils' needs, concentration on teachers' work outside the classroom, weak link between PA and rewards and recognition Change issues: new ideas for valuing the performance of teachers in the context of a lack of monetary resources. Teachers: Pros:  <ul style="list-style-type: none"> <li>Teachers obtain information for their <i>professional development</i> (T1).</li> <li>Several sources of PA (pupil satisfaction inquiries, class observations, self-evaluation, development interviews) (T2; T3)</li> </ul> Cons:  <ul style="list-style-type: none"> <li>Teachers do not understand the <i>benefit of PA</i> (T1)</li> <li><i>Extra obligation</i> for teachers (T2;T3)</li> <li>Lack of negative feedback (T2)</li> </ul> Change issues:  <ul style="list-style-type: none"> <li><i>Introducing the benefits of PA</i> to teachers (T1; T3);</li> <li><i>Involve teachers</i> in school management ... "when teachers see that headmaster values their opinions, then teachers are more motivated to develop and see the usefulness of PA during it" (T1)</li> <li>Regular feedback (development interviews) (T3)</li> </ul> </p>	<p>Headmaster Pros: Competence model - PA is linked to making proposals for teachers' <i>occupational level</i> and provides the basis for <i>schooling plan</i>. Teachers: Pros:  <ul style="list-style-type: none"> <li>Regular <i>development interviews</i> for new teachers (T1; T2; T3);</li> <li><i>Trust</i> between school manager and teachers (T1; T3);</li> <li>Teachers are not being <i>controlled (class observations not implemented)</i> (T1; T2; T3).</li> </ul> Change issues:  <ul style="list-style-type: none"> <li>Less emphasis on <i>pupil feedback</i> ("their feedback does not allow making conclusions about actual teaching quality") (T1).</li> </ul> </p>	<p>Headmaster: Pros: Use of <i>model of good teacher</i>, based on which, teachers, pupils and parents give feedback on teacher's performance. PA <i>values teachers' additional work with talented pupils</i> and pupils with <i>special educational needs</i>. Low attention is put to teachers' work <i>outside the classroom</i>. Change issues: more attention should be paid to teachers' <i>work in helping pupils with low performance</i>. Teachers: Cons:  <ul style="list-style-type: none"> <li>PA is only implemented in order to raise teachers' <i>occupational level</i> (T1);</li> <li><i>Lack of feedback</i> based on PA reports (T2);</li> <li>Unfair that teachers have to take full responsibility for <i>pupil performance</i> (T3).</li> </ul> Change issues:  <ul style="list-style-type: none"> <li>More concentration on teachers' effort in <i>school development and public relationships</i> (T3).</li> </ul> </p>

	School No. 1	School No. 2	School No. 3
3. Implementation of development interviews. Feedback	<p><b>Headmasters:</b> Because of the changes in schools in our region (secondary schools are turned into primary schools and one state secondary school is being established), <i>development interviews</i> have been stopped. Traditionally, development interviews are <i>held biennially</i>, to avoid the routine. During development interviews, the results of <i>teacher self-evaluation</i>, <i>pupil satisfaction inquiries</i> and <i>class observations</i> are discussed. The <i>feedback</i> depends a lot on the teachers – some teachers propose useful ideas for their own development and that of the <i>school</i>, with some teachers the development interview is <i>just a formality</i>.</p> <p>Teachers: Development interviews are biennial (T; T2; T3) Usefulness of development interview:</p> <ul style="list-style-type: none"> <li>• very useful information about teacher <i>behaviour</i> and <i>performance</i> (T1; T2);</li> <li>• <i>Improvement</i> possibilities for teachers and solutions for achieving them are worked out in co-operation with headmaster (T1; T2);</li> <li>• Development interviews are <i>not very beneficial</i> (T2).</li> </ul>	<p><b>Headmaster:</b> <i>Annual development</i> interviews are unnecessary because the <i>competence of our teachers</i> is so high. Interviews about <i>home-room teaching</i> and <i>teaching values</i> are held twice a year. During these interviews the performance of teachers teaching their subject is not discussed. Instead, their performance in <i>getting along with pupils</i> is discussed.</p> <p>Teacher Development interviews are held Primarily with new teachers based on necessity and problems arising (T1;T2; T3), Usefulness of development interview:</p> <ul style="list-style-type: none"> <li>• The main emphasis is put on the discussion of the <i>general development of the school</i> (not giving feedback about teachers' competence, behaviour and work performance) (T1)</li> <li>• Teachers have an opportunity to <i>share their opinions</i> about school management and <i>relationships to headmasters</i> (T1).</li> </ul>	<p><b>Headmaster</b> development interviews are conducted <i>annually</i> during teacher <i>self-evaluation</i>.</p> <p>Teachers: Development interview is conducted <i>annually</i> based on <i>self-evaluation</i> results (T1; T2; T3).</p>

	School No. 1	School No. 2	School No. 3
4. Teacher involvement in PA. Guaranteeing the fairness and understanding of PA Guaranteeing the fairness and understanding of PA	<p><b>Headmaster:</b> PA is based on <i>self-evaluation</i> forms and teachers have an opportunity to <i>makes some proposals</i> about those forms. Still to some extent they are <i>forced by the head teachers</i>.</p> <p>Teachers: PA is developed by headmaster and teachers are not involved (T1). PA is determined at government level (self-evaluation) (T2) Teachers have an opportunity to make proposals (T1; T2; T3). Teacher involvement should be more systematic (T3)</p>	<p><b>Headmaster:</b> teachers are <i>involved</i>. Teacher <i>involve-ment in school management</i> in very important.</p> <p>Teachers: The principles of PA are set by headmasters (T1) When designing these kinds of management processes, implementation teams are established, where only some groups of teachers participate (T1; T2). Teachers have an opportunity to express their opinions during development interviews (T1; T2; T3).</p> <p>How is the fairness and understanding of PA guaranteed:</p> <ul style="list-style-type: none"> <li>• employing objective evaluation criteria (T1);</li> <li>• current ability level of the study group should be taken into consideration (T1);</li> <li>• Involving teachers in the development of PA (T3).</li> </ul>	<p><b>Headmaster:</b> PA is developed <i>by school management</i>, teachers only <i>partially involved</i>.</p> <p>Teachers: PA is developed by headmaster based on government requirements for internal evaluation (T1; T2; T3).</p>
5. Introducing PA results	<p><b>Headmaster:</b> Teachers' <i>individual performance</i> results are not introduced to other teachers. <i>Low performing teachers</i> get their feedback from head teacher after the <i>class observation</i>. The discussion about <i>improving the performance of teachers</i> is held between head teacher and teacher, if possible, <i>schoolings</i> are offered. Later, additional <i>feedback</i> is gathered about the performance of teachers for defining whether teacher has improved.</p>	<p><b>Headmaster:</b> Our school issues from the structure of <i>working experience</i> while developing schools' staff. It is important to support <i>new teachers</i> in a way that they gathered knowledge from senior teachers' experience. <i>Co-operation</i> and <i>habit to share knowledge</i> and <i>experience</i> with other is an important part of <i>our schools' culture</i>.</p> <p>Teachers: Other teachers' performance results are not available (T1; T2; T3) Public discussion on other teachers' results is not ethical (T2)</p>	<p><b>Headmaster:</b> <i>Individual performance</i> results are not available to other teachers. The results are discussed with <i>school management</i>.</p> <p><b>Teachers:</b> Individual results are discussed during development interviews (T1; T2; T3)</p>

	School No. 1	School No. 2	School No. 3
5. Introducing PA results	<p>Teachers: Individual teacher performance is not public (T1; T2; T3) The results of the <i>pupil satisfaction inquiries</i> are public. The issues of low performing teachers are discussed during <i>development interviews</i> and <i>solutions</i> for overcoming them are proposed by <i>headmaster</i> (T1; T2; T3). <i>Low performing teachers</i> are <i>supervised (class observations)</i> to see whether they have improved their behaviour after development interviews (T1; T3).</p>		
6. Involving pupil feedback in PA	<p><b>Headmaster:</b> All <i>pupil feedback</i> is taken into consideration during <i>teacher development interview</i>. Teachers: Pupil feedback reflects the <i>actual situation in the classroom</i>; therefore, it should be included in teacher PA (T1; T2; T3). Pupil feedback is discussed during <i>development interview</i> (T1; T2) <i>Senior pupil feedback</i> may be more objective, but in our school, all pupil feedback is considered (T1; T2).</p>	<p><b>Headmaster:</b> <i>School expectation inquiries</i> are held among 10th grade and 12th grade pupils, additional <i>satisfaction inquiries</i> with the respect to <i>subjects taught</i> are performed in 11th grade. Teachers: Pupil feedback is involved (T1; T2; T3) and should be involved (T1; T3). Pupil feedback should not be the main criteria for PA (T1).</p>	<p><b>Headmaster:</b> <i>Pupil feedback</i> is involved regularly.</p>

	School No. 1	School No. 2	School No. 3
PRP			
7. principles for teachers' salary, implementation of PRP, PRP criteria. The reasons for not implementing PRP.	<p><b>Headmaster:</b> Teachers' salary is based on teachers' <i>work load</i> and <i>occupational level</i>. In exceptional cases, the <i>number of pupils</i> is taken into consideration as well. PRP is not <i>implemented systematically</i>; <i>Olympiads</i> and <i>extra-curricular</i> activities are rewarded. Reason for not implementing PRP systematically: <i>lack of monetary resources</i> (only 3% of the teachers' salary fund can be used for PRP)</p> <p>Teachers: Teaches are paid according to <i>work load</i> and <i>occupational level</i> (T1; T2; T3). If performance exceeds standard then one-off small incentive bonuses are offered (T1; T2; T3). The criteria of PRP:</p> <ul style="list-style-type: none"> <li>• participation in projects (T1)</li> <li>• pupils' good results in <i>olympiads</i> (T1)</li> </ul> <p>The reasons for not implementing PRP regularly:</p> <ul style="list-style-type: none"> <li>• Difficulties in <i>selecting PRP criteria</i> (e.g. teachers cannot be rewarded by <i>academic performance</i> because it is dependent on the level of pupils in the classroom) (T1; T2)</li> <li>• Incentive monetary bonus is not <i>motivating for teachers</i>, because teachers do their work because they like it (T1).</li> <li>• Lack of <i>monetary resources</i> in teachers' salary fund (T3).</li> </ul>	<p><b>Headmaster:</b> Teachers are rewarded based on <i>occupational rank</i>. PRP is implemented regularly based on teachers' <i>extra work</i> (if <i>monetary resources</i> allow). PRP is paid based on <i>pupils' results in national exams</i>, and <i>results in olympiads</i> and <i>competitions</i>. Teachers: Teacher salary is dependent on its <i>occupational level</i> (T1; T2; T3) and <i>working hours</i> (T2) One-off incentives are offered (T1;T2; T3). The criteria of PRP:</p> <ul style="list-style-type: none"> <li>• results in the <i>national examinations</i> (T1; T2; T3)</li> <li>• results in <i>olympiads</i> (T1; T2; T3).</li> <li>• managing or participation in <i>school management working groups</i> (T2),</li> <li>• participation in <i>school development</i> (T2),</li> <li>• Incentives for <i>homeroom teachers</i> of graduation classes (T2).</li> <li>• reviewing entrance examinations (T3)</li> <li>• developing a new subject or course (T3)</li> <li>• teaching-methodological materials (T3)</li> </ul> <p>The reasons for not implementing PRP regularly:</p> <ul style="list-style-type: none"> <li>• schools' <i>monetary resources</i> (T1;T2;T3)</li> </ul>	<p><b>Headmasters:</b> Teachers are rewarded based on <i>occupational level</i> and <i>working hours</i>. PRP is rarely implemented. <i>Gain-sharing</i> has been used. <i>Additional work</i> in preparing pupils for <i>national examinations</i> is rewarded. PRP is rarely implemented because of <i>lack of monetary resources</i>. During PRP, <i>pupil results in olympiads</i> and <i>competitions</i> are emphasised Teachers: Occupational level and working hours are rewarded (T1;T2). <i>Additional work</i> is rewarded by PRP (T1; T2) The PRP criteria are:</p> <ul style="list-style-type: none"> <li>• results in national examinations (T1);</li> <li>• extracurricular activities (T2; T3);</li> <li>• instructing pupils for olympiads (T2).</li> </ul>

	School No. 1	School No. 2	School No. 3
8. Development of PRP, teacher involvement	<p><b>Headmaster:</b> PRP is not implemented <i>systematically</i>. Teachers have an opportunity to <i>make proposals</i> about allocating <i>one-off incentives</i>.</p> <p>Teachers: PRP is not implemented systematically; therefore, there is no system (T1; T3). Teachers can make proposals for paying one-off incentives (T1). Teachers' salary committee decides teachers' salaries (T2).</p>	<p><b>Headmaster:</b> Teachers are involved in making school decisions, including PRP. Teacher salaries are decided by the salary committee where teachers are also members. "Every teacher has to be a part of the school's overall vision, but this requires good relationships with teachers. Teachers' work should be acknowledged, recognised and rewarded and teachers should be involved".</p> <p>Teachers: PRP is developed by headmaster; I was not involved (T1). The current salary system is developed by teachers' salary committee, where teachers participate (T2; T3). Teachers have been asked for their opinion (T2).</p>	<p><b>Headmaster:</b> PRP is developed by the <i>school's development manager</i> and <i>headmaster</i>.</p>
9. Pros and cons of PRP. Need for change	<p>Headmaster: Pros: School has a possibility to pay <i>one-time small incentives</i> for teachers. Cons: lack of monetary resources. Because of this PRP criteria are not selected.</p> <p>Teachers: Pros: Enables to reward teachers for <i>extra work outside lessons</i> (T2). Cons: Paying <i>one-time incentives</i> is too chaotic – there is no certain <i>system</i> (T1)</p>	<p>Headmaster: Cons: School does not have <i>salary fund</i> for PRP</p> <p>Teachers: Pros:</p> <ul style="list-style-type: none"> <li>• PRP rewards teachers' <i>additional work</i> that is done ' <i>outside lessons</i> (T1; T3)</li> <li>• PRP values work, despite of what results are achieved by pupils (T2)</li> <li>• PRP is not dependent on the subjects taught (T2).</li> </ul> <p>Cons:</p> <ul style="list-style-type: none"> <li>• Rewarding the hours spent for preparing pupils is not correct as it values the teachers' over-time work (T2).</li> <li>• Lack of opportunity for additional reward for teachers teaching subjects where olympiads are not held in (T3).</li> </ul>	<p>Headmaster: Cons: Too much emphasis on <i>additional work</i>. Change issues: <i>teachers' evaluation</i> should be tied with <i>rewarding system</i>, teachers' <i>participation in school management</i> and their work in the <i>classroom</i> should be valued.</p> <p>Teachers Cons:</p> <ul style="list-style-type: none"> <li>• PRP is too <i>one-sided</i> (T1)</li> <li>• Some teachers do not have opportunity for PRP (T2)</li> </ul>

	School No. 1	School No. 2	School No. 3
9. Pros and cons of PRP. Need for change	<p>Change issues: Proper system for <i>one-off</i> incentives should be developed Unable to answer, because PRP is not implemented (T3).</p>	<p>Change issues:</p> <ul style="list-style-type: none"> <li>• instead of monetary resources, teachers should be rewarded with extra holidays (T2).</li> <li>• competition for new study materials is organised within schools, where best work is rewarded (T3).</li> </ul>	<p>Change issues:</p> <ul style="list-style-type: none"> <li>• participation in <i>school development</i>, participation in <i>projects</i>, instructing <i>young teachers</i>, developing new <i>teaching materials</i> should be rewarded (T1).</li> <li>• <i>helping pupils with special educational needs</i> (teaching in a foreign language) should be rewarded (T3).</li> <li>• <i>Homeroom teaching</i> should be valued (T3)</li> </ul>
10. Size of the class and teachers' weekly workload.	<p><b>Headmaster:</b> <i>Size of the class and teachers' weekly workload</i> are easily <i>measurable</i>, therefore teachers are rewarded by those criteria. However they are <i>one-sided</i> and do not reflect <i>teachers' actual work effort</i>. Teachers: <i>Average size of a class and weekly workload</i> are rewarded in our school (T1; T2; T3) Opinions to those criteria:</p> <ul style="list-style-type: none"> <li>• important indicators of teachers' performance (T1).</li> <li>• are not important, because they do not affect <i>teachers' performance</i> (T3).</li> </ul>	<p><b>Headmasters:</b> Teachers are not rewarded for <i>average size</i> of the class and teachers' <i>weekly workload</i>. Teachers: Opinions to those criteria:</p> <ul style="list-style-type: none"> <li>• they matters how much effort teachers have to make for preparing lessons and teaching pupils based on their individuality (T1;T2;T3).</li> <li>• not sure about the suitability of those criteria in PRP, because they do not reflect <i>actual performance</i> itself (T1, T2).</li> </ul>	<p><b>Headmasters:</b> Teachers are rewarded by additional <i>workload</i>. Teachers: Opinions to those criteria:</p> <ul style="list-style-type: none"> <li>• Size of the class and workload does not reflect <i>teachers' work performance</i> and <i>quality</i>, therefore, they must not be emphasised (T1; T2; T3).</li> <li>• The size of the class should not be rewarded as all the classes are <i>fulfilled</i>.</li> </ul>

Note: PA – performance appraisal; PRP – performance-related pay; HM – headmaster; T1, T2, T3 – teachers.

Source: compiled by the author based on transcriptions made during the case studies implemented during the project “Performance and the analysis of influential drivers in public schools” (Türk *et al.*, 2011).

**Appendix 9.** The gap between reasonability and the actual use of performance appraisal criteria (% of “is being appraised” minus % of “rational to use”) in Estonian general educational schools.

Performance appraisal criteria	<b>Is being appraised</b> (% of answers “yes”)	<b>Is rational to use</b> (% of completely agree and tend to agree)	The gap between actual use and reasonability
Participation in school management	92	62.1	29.9
Pupil academic performance	82.9	58	24.9
Pupils' further educational career	63.5	43	20.5
Cooperation with parents	90.3	70.6	19.7
Pupil results in olympiads, exhibitions and competitions	89.2	70.2	19
Instruction in extra-curricular activities	86.5	69.4	17.1
Participation in school development	86.7	69.8	16.9
Teachers' work discipline	89.2	74	15.2
Giving feedback to pupils about their ongoing academic performance	86.8	72	14.8
Cooperation with colleagues	87.6	74.2	13.4
Teachers' activities in helping pupils with low academic performance to gain knowledge in subjects taught and help them pass.	87.3	74.5	12.8
Teachers' actual weekly work load	65	54	11
Communication and getting along with pupils	84.2	75.3	8.9
Referring subject's content to practice and other subjects	80.6	71.9	8.7
Teaching-methodological work	84.4	77.3	7.1
Number of pupils taught	50.6	45.6	5
Creating a motivating and creative learning environment in the classroom	81.8	77.6	4.2



Performance appraisal criteria	<b>Is being appraised</b> (% of answers “yes”)	<b>Is rational to use</b> (% of completely agree and tend to agree)	The gap between actual use and reasonability
Teachers' performance in the classroom	75.2	71.1	4.1
Number of pupils with special educational needs	64.1	64.5	-0.4
Instructing junior teachers	69.3	70.8	-1.5

Note: The larger the absolute value of the gap, the larger the differences; Positive value indicates that the percentage of use is higher than the percentage of its reasonability; Negative value indicates that the criteria are seen as reasonable but is not used; Sample size 2,357

Source: author's calculations

**Appendix 10.** Comparative view of pedagogues' opinions of whether teacher performance appraisal criteria are reasonable

Performance appraisal criteria	Statistics	Opinions of performance appraisal criteria		Mann-Whitney U-test results	
		Head-masters	Teachers	Z-test value	Asymp. Sig.
Participation in school management	Mean (SD) Median N	4.06 (0.1) 4 297	3.61 (1.26) 4 2,147	-3.49	0.00*
Participation in school development	Mean (SD) Median N	4.21 (0.1) 4 297	3.77 (1.26) 4 2,129	-3.11	0.00*
Instructing junior teachers	Mean (SD) Median N	4.18 (1.09) 4 293	3.8 (1.33) 4 2,122	-5.57	0.00*
Cooperation with colleagues	Mean (SD) Median N	4.37 (0.89) 5 294	3.94 (1.18) 4 2,113	-2.6	0.01*
Cooperation with parents	Mean (SD) Median N	4.39 (0.81) 5 292	3.84 (1.2) 4 2,114	-2.44	0.02*
Teaching-methodological work	Mean (SD) Median N	4.44 (0.91) 5 296	4.03 (1.17) 4 2,114	-4,37	0.00*
Teachers' performance in the classroom	Mean (SD) Median N	4.35 (0.84) 5 294	3.84 (1.26) 4 2,115	-5.19	0.00*
Referring subject's content to practice and other subjects	Mean (SD) Median N	4.31 (0.9) 5 297	3.89 (1.17) 4 2,114	-2.47	0.01*
<b>Teachers' actual weekly work load</b>	Mean (SD) Median N	<b>3.14 (1.44)</b> <b>3</b> <b>292</b>	<b>3.42 (1.55)</b> <b>4</b> <b>2,105</b>	-1.08	0.28
<b>Number of pupils taught</b>	Mean (SD) Median N	<b>2.92 (1.43)</b> <b>3</b> <b>292</b>	<b>3.18 (1.56)</b> <b>3</b> <b>2,095</b>	-1.99	0.05*
Number of pupils with special educational needs	Mean (SD) Median N	3.83 (1.26) 4 296	3.67 (1.43) 4 2,106	-3.67	0.00*

Performance appraisal criteria	Statistics	Opinions of performance appraisal criteria		Mann-Whitney U-test results	
		Head-masters	Teachers	Z-test value	Asymp. Sig.
Creating a motivating and creative learning environment in the classroom	Mean (SD) Median N	4.46 (0.79) 5 293	4.04 (1.15) 4 2,121	-4.7	0.00*
Giving feedback to pupils about their ongoing academic performance	Mean (SD) Median N	4.26 (0.97) 4 295	3.88 (1.22) 4 2,106	-2.2	0.03*
Communication and getting along with pupils	Mean (SD) Median N	4.42 (0.94) 5 293	3.99 (1.2) 4 2,106	-2.96	0.00*
Instruction in extra-curricular activities	Mean (SD) Median N	4.11 (1.04) 4 291	3.85 (1.24) 4 2,100	-1.72	0.09
Teachers' activities in helping pupils with low academic performance to gain knowledge in subjects taught and help them pass	Mean (SD) Median N	4.33 (1.00) 5 295	3.98 (1.17) 4 2,107	-3.56	0.00*
Pupils' further educational career	Mean (SD) Median N	3.4 (1.29) 4 292	3.12 (1.44) 3 2,086	-2.53	0.01*
Pupil academic performance	Mean (SD) Median N	3.83 (1.23) 4 288	3.53 (1.34) 4 2,091	-0.06	0.95
Pupil results in olympiads, exhibitions and competitions	Mean (SD) Median N	4.16 (1.10) 4 290	3.86 (1.25) 4 2,101	-0.26	0.79
Teachers' work discipline	Mean (SD) Median N	4.45 (0.74) 5 293	3.97 (1.14) 4 2,102	-3.28	0.00*

Note: \* significant difference between groups at 0.05 level; 5-point scale; SD – standard deviation; N – sample size; Criteria that teachers prefer more compared to headmasters are marked in boldface

Source: compiled by the author

**Appendix II.** Performance-related pay criteria used for rewarding teachers work performance in Estonian general educational schools

	<b>Category of PRP criteria</b>	<b>Performance-related pay criteria</b>	<b>No. of mentions</b>
1.	LP	Pupil participation, instruction and results in olympiads, exhibitions and competitions	395
2.	SM	Participation in school development	160
3.	LP	Instruction in extra-curricular activities	158
4.	LP	Pupil academic performance, teachers' work in preparing pupils for national examinations	120
5.	LP	Pupils' current academic performance (positive current grades, annual grades, pupil progress in class and in school)	59
6.	SM	Participation in school management	49
7.	LP	The work of a homeroom teacher	40
8.	SM	Teachers' additional work, special tasks (keeping the school's chronicle, administering the school's web page, editing and publishing the school's newspaper, compiling and implementing matriculation tests, revising them etc.)	40
9.	LP	Teaching-methodological work	36
10.	SM	Teachers' work discipline	27
11.	PC	Teachers' qualification, self-development, participation in training	26
12.	LP	Instructing research work and projects, reviewing them	25
13.	LP	Teachers' weekly workload	24
14.	LE	Communicating and getting along with pupils (based on satisfaction questionnaires)	19
15.	LE	The discipline in the classroom	18
16.	LE	Creating motivating and creative learning environment	16
17.	LP	Resulting work with pupils with special educational needs	15
18.	SM	Cooperation with parents	15
19.	LP	Conducting development interviews	14
20.	PC	Teachers being socially active	10
21.	SM	Instructing junior teachers and trainees	10

	<b>Category of PRP criteria</b>	<b>Performance-related pay criteria</b>	<b>No. of mentions</b>
22.	LP	Work with talented pupils	9
23.	SM	Cooperation with school interest groups	8
24.	SM	Relations with school manager (salary is paid based on headmasters' personal opinion)	8
25.	PC	Creativity and innovativeness of teachers	8
26.	PC	Teachers' occupational level	7
27.	SM	Cooperation with colleagues	6
28.	LP	Pupil individual development	5
29.	PC	Working experience	5
30.	LP	Number of pupils taught	5
31.	LE	Pupil feedback about the performance of teachers in the classroom	4
32.	SM	Loyalty and commitment	4
33.	SM	Participation in creating school image	4
34.	LP	Organising study tours, concerts and excursions	4
35.	LP	Helping pupils with low academic performance in gaining knowledge and passing subjects	4
36.	SM	The result of the internal evaluation	4
37.	LP	Language immersion, teaching in bilingual classes	3
38.	PC	Teachers' work ethics and morals	2
39.	LP	Number of pupils performing national examination in the subject taught	2
40.	SM	Jubilees	2
41.	LE	Supporting and involving pupils	2
42.	PC	Teachers' characteristics, dutifulness	2
43.	LP	Continuing studies at university, running performance at that school level	2
44.	LP	Using modern IT-solutions in the classroom	2
45.	SM	Awards, titles and acknowledgement of teachers	2
46.	LP	Fee for teaching a subject difficult by nature	2
47.	LP	The importance of the subject taught	1

	<b>Category of PRP criteria</b>	<b>Performance-related pay criteria</b>	<b>No. of mentions</b>
48.	LP	Reviewing examinations	1
49.	SM	Order in getting incentives (teachers who have not been rewarded for a long time get the incentive next)	1
50.	SM	Annual bonus at the end of the year (% of the base pay)	1
51.	SM	International cooperation	1
52.	SM	Writing and publishing	1

Note: Sample size 1,388; LE – learning environment; LP – learning process; SM – school management, PC – teachers’ professional characteristics; PRP – performance-related pay  
Source: compiled by the author based on the pedagogues’ answers to open questions

**Appendix 12.** The gap between pedagogues' preferences in performance-related pay criteria (% of headmasters "totally agree" minus % of teachers "totally agree")

<b>Performance-related pay criteria</b>	<b>Headmasters' preferences (% of rather and totally agree)</b>	<b>Teachers' preferences (% of rather and totally agree)</b>	<b>The gap between headmasters' and teachers' preferences</b>
Participation in school development	88.3	74.5	13.8
Participation in school management	72.5	59.4	13.1
Pupil academic performance	71.5	60.2	11.2
Instructing junior teachers	83.6	71.1	10.5
Pupil results in olympiads, exhibitions and competitions	78.2	68.3	9.9
Teachers' activities in helping pupils with low academic performance to gain knowledge in subjects taught and help them pass	80.9	73.3	7.5
Instruction in extra-curricular activities	79.2	71.8	7.4
Teaching-methodological work	85.9	78.7	7.2
Number of pupils with special educational need	69.1	73.3	-4.1
Average size of the class	38.9	55.4	-16.5
Teachers' actual weekly work load	47.4	70.4	-22.7

Note: The larger the absolute value of the gap, the larger the difference; Positive values indicate that headmasters have higher opinions of performance-related pay criteria and negative values, on the other hand, reflect teachers' higher preferences; Sample size 2,357

Source: author's calculations

**Appendix 13.** Comparative view of school headmasters' and teachers' opinions of how reasonable performance-related pay criteria are in rewarding teachers' work performance in Estonian general educational schools

Performance-related pay criteria	Statistics	Opinions of PRP criteria		Mann-Whitney U-test results	
		Headmasters	Teachers	Z-test value	Asymp. Sig.
Participation in school management	Mean (SD) Median N	4.12 (1.07) 4 285	3.62 (1.33) 4 2,088	-6.19	0.00*
Participation in school development	Mean (SD) Median N	4.51 (0.77) 5 287	4.03 (1.08) 4 2,089	-7.72	0.00*
Instructing junior teachers	Mean (SD) Median N	4.28 (0.86) 4 285	3.97 (1.12) 4 2,083	-4.34	0.00*
Teaching-methodological work	Mean (SD) Median N	4.44 (0.79) 5 285	4.16 (1.02) 4 2,083	-4.57	0.00*
<b>Teachers' actual weekly work load</b>	Mean (SD) Median N	3.35 (1.37) 3.5 284	<b>3.94 (1.29)</b> <b>4</b> <b>2,089</b>	-7.85	0.00*
<b>Average size of the class</b>	Mean (SD) Median N	3.21 (1.23) 3 284	<b>3.53 (1.34)</b> <b>4</b> <b>2,081</b>	-4.68	0.00*
<b>Number of pupils with special educational needs</b>	Mean (SD) Median N	3.88 (1.23) 4 284	<b>4.01 (1.19)</b> <b>4</b> <b>2,083</b>	-1.93	0.05*
Instruction in extra-curricular activities	Mean (SD) Median N	4.17 (0.98) 4 282	3.96 (1.16) 4 2,092	-2.59	0.01*
Helping pupils with low academic performance to gain knowledge in subjects taught and help them pass	Mean (SD) Median N	4.28 (0.97) 5 283	4.02 (1.11) 4 2,089	-4.09	0.00*
Pupil academic performance	Mean (SD) Median N	3.95 (1.21) 4 286	3.69 (1.22) 4 2,088	-4.10	0.00*
Pupil results in olympiads, exhibitions and competitions	Mean (SD) Median N	4.3 (1.03) 5 269	4.02 (1.16) 4 1,955	-4,34	0.00*

Note: \* significant difference between groups at 0.05 level; 5-point scale; SD – standard deviation; PRP – performance-related pay; N – sample size; Criteria that teachers prefer more compared to headmasters are marked in boldface

Source: compiled by the author



**Appendix 14.** Comparative view of the 10 most frequently mentioned performance appraisal criteria, performance-related pay criteria and school performance indicators in Estonian general educational schools

	<b>10 most frequently mentioned indicators of school performance in Estonian schools (the number of mentions)</b>	<b>10 most frequently mentioned PA criteria used in Estonian schools (the % of answers "yes")</b>	<b>10 most frequently mentioned PRP criteria used in Estonian schools (the number of mentions)</b>
1.	Current academic performance – learning results, current grades or scores, pupils managing at the current school level (286)	Participation in school management (92%)	Pupil participation, instruction and results in olympiads, exhibitions and competitions (394)
2.	The percentage/number of pupils continuing studies at the next level of education (257)	Cooperation with parents (90.3%)	Participation in school development (160)
3.	The results in national examinations (246)	Teachers' work discipline (89.2%)	Instruction in extra-curricular activities (158)
4.	Pupils', teachers' and parents' satisfaction with school (209)	Pupil results in olympiads, exhibitions and competitions (89.2%)	Pupil academic performance, teachers' work in preparing pupils for national examinations (120)
5.	Pupil satisfaction with subjects studied, their interest and motivation to learn, positive opinions towards school and learning processes, joy from knowledge (191)	Cooperation with colleagues (87.6%)	Pupil current academic performance (positive current grades, annual grades, pupil progress in class and in school) (59)
6.	Coping with life, life skills (185)	Teachers' activities in helping pupils with low academic performance to gain knowledge in subjects taught and help them pass (87.3%)	Participation in school management (49)
7.	Pupil results and achievements in academic competitions and exhibitions (139)	Giving feedback to pupils about their ongoing academic performance (86.8%)	The work of a homeroom teacher (40)

	<b>10 most frequently mentioned indicators of school performance in Estonian schools (the number of mentions)</b>	<b>10 most frequently mentioned PA criteria used in Estonian schools (the % of answers "yes")</b>	<b>10 most frequently mentioned PRP criteria used in Estonian schools (the number of mentions)</b>
8.	The presence of well-qualified teachers in schools (138)	Participation in school development (86.7%)	Teachers' additional work, special tasks (keeping the school's chronicle, administering the school's web page, editing and publishing the school's newspaper, compiling and implementing matriculation tests, revising them etc.) (40)
9.	The results and coping with learning on the next level of education (high school or university) (134)	Instruction in extra-curricular activities (86.5%)	Teaching-methodological work (36)
10.	Low drop-out rate (103)	Teaching-methodological work (84.4%)	Teachers' work discipline (27)

Note: PA – performance appraisal; PRP – performance-related pay; Sample size 2,357.

Source: author's calculations

## SUMMARY IN ESTONIAN

### Õpetajate töösoorituse juhtimise hindamise ja töötasustamise aspektid eesti üldhariduskoolide näitel

#### Töö aktuaalsus

Tulenevalt ühiskondlikest arengutest on koolide toimimispõhimõtted muutunud. Näiteks peavad koolid konkureerima omavahel nii õpilaste kui ka õpetajate pärast ning keskenduma oma tulemuslikkuse tõstmisele. Seetõttu rakendavad koolid enam erasektori juhtimispraktikaid, nagu näiteks töösoorituse juhtimist (sh töösoorituse hindamist ja tulemustasustamist). Olenemata uute juhtimispraktikate oodatavast kasust organisatsioonile, on nende rakendamine probleemimahukas, tuues kaasa palju vastuolusid ning konflikte. Näiteks on mitmete avaliku sektori juhtimist uurivate autorite arvates avalik ja erasektor üksteisest nii erinevad, et käitumiste ning juhtimispraktikate ülevõtmine erasektorist pole avalikule sektorile sobiv ega tulemuslik (Propper, Wilson, 2003). Sellest olenemata rakendatakse tänapäeval töösoorituse juhtimist ka avalikus sektoris ning see on saamas üha igapäevasemaks ka haridussektoris. Seda eelkõige seetõttu, et töösoorituse juhtimine tagab organisatsiooni edu eesmärkide saavutamisele suunatud lähenemise kaudu (Macaulay, Cook, 1994; Winstanley, Stuart-Smith; 1996; Hartog *et al.*, 2004). Lisaks võib leida näiteid Ameerika Ühendriikide, Suurbritannia ja Austraalia koolide praktikast (Storey, 2000; Tomlinson, 2000; Hanley, Nguyen, 2005; Mardsen, Belfield, 2006), kus rakendatakse töösoorituse juhtimist eesmärgiga muuta õpetajaametit atraktiivsemaks, tõsta kooli tulemustele orienteeritust ning siduda õpetajate tegevus ja tulemused otseselt kooli eesmärkidega.

Eesti haridusstrateegia aastaks 2020 toob välja olulised väljakutsed Eesti koolidele, sealhulgas õpetaja positsiooni ja õpetajakutse reputatsiooni tõstmise ühiskonnas. Üheks võimaluseks selle saavutamisel on õpetajate palgasüsteemi mitmekesistamine, vähendades keskendumist vaid õpetajate töökoormusele ning ametijärgule. Uus palgasüsteem peaks motiveerima õpetajate professionaalset arengut ja arvesse võtma õpetaja töö mitmekesisust. Samuti plaanitakse kaotada õpetajate palgaerinevused kohalikes omavalitsustes (Eesti hariduse viis väljakutset..., 2011). Siiski võib kahelda, kas üldine õpetajate palgatõus oleks efektiivne ning kas koolidel oleks selleks üldse vajalikku raha. Seetõttu ei ole lahenduseks üldine palgatõus, vaid õpetajate palga diferentseerimine tulenevalt nende töösooritusest ning kooli eesmärkide täitmisest. Autori arvates oleks Eesti üldhariduskoolides otstarbekas rakendada senisest enam õpetajate tulemustasustamist, mis võimaldab siduda töötasu õpetajate töösooritusega.

Selleks et tõsta Eesti üldhariduskoolide tulemuslikkust ning tagada olukord, kus koolid oleksid varustatud hästiasustatud, motiveeritud ja professionaalsete õpetajatega, on võetud uueks suunaks õpetajate töösoorituse juhtimine. Kuigi Eesti koolidele on antud suur otsustamisõigus, ei ole koolijuhtidel sageli selleks piisavalt pädevust ja vahendeid ning sellest tulenevalt kardetakse ka eelseisvaid

muudatusi. Selleks et muudatusi valutumalt ellu viia, tuleks koolidele välja töötada metoodilised materjalid ning vajadusel pakkuda nõustamisteenust õpetajate töösoorituse juhtimise valdkonnas.

Esimese sammuna tuleks kaardistada hetkeolukord Eesti üldhariduskoolides, samuti määratleda pedagoogide, st nii koolijuhtide kui ka õpetajate arvamused õpetajate töösoorituse hindamisest ja tulemustasustamisest ning uurida töösoorituse juhtimise võimalusi ja perspektiive Eesti üldhariduskoolides. Doktoritöös tõestatakse empiirilisel, kuidas õpetajate tegevus ning kooli juhtimine mõjutavad pedagoogide arvamust töösoorituse juhtimisest. Selle põhjal saab välja töötada soovitusi õpetajate töösoorituse hindamise ja tulemustasustamise arendamiseks, sh töösoorituse hindamise ja tulemustasustamise kriteeriumide valikuks.

## **Uurimuse eesmärk ja uurimisülesanded**

Doktoritöö eesmärk on töötada välja soovitud õpetajate töösoorituse hindamise ja töötasustamise arendamiseks Eesti üldhariduskoolides. Doktoritöö tulemusena tuuakse välja olulised aspektid õpetajate töösoorituse hindamise ja tulemustasustamise kujundamisel ja rakendamisel ning soovitud õpetajate töösoorituse hindamise ja tulemustasustamise kriteeriumide valikuks. Töö eesmärgi saavutamiseks on püstitatud järgmised uurimisülesanded:

1. Analüüsida töösoorituse juhtimise, sealhulgas töösoorituse hindamise ja tulemustasustamise olemust, protsessi ja nende eripärasid haridussüsteemis.
2. Töötada välja raamistik, et analüüsida kooli tulemuslikkuse kujunemist ja seda, kuidas õpetajate tegevuse ning kooli juhtimise aspektid seda mõjutavad.
3. Formuleerida uurimisväited kooli juhtimise, õpetajate tegevuse aspektide ja pedagoogide arvamuste vaheliste seoste kohta, õpetajate töösoorituse hindamise ja tulemustasustamise kriteeriumide kohta ning õpetajate tulemustasustamise ja kooli tulemusnäitajate vaheliste seoste kohta.
4. Töötada välja Eesti üldhariduskoolide õpetajate töösoorituse hindamise ja tulemustasustamise uurimismetoodika (sh ankeet), tuginedes eespool mainitud teoreetilisele analüüsile.
5. Analüüsida seoseid kooli juhtimise karakteristikute ja pedagoogide arvamuste vahel hindamisest ja tulemustasustamisest eesmärgiga määratleda aspektid, mis on olulised õpetajate töösoorituse hindamise ja tulemustasustamise süsteemi väljatöötamisel ja rakendamisel koolides.
6. Analüüsida seoseid õpetajate tegevuse karakteristikute ja pedagoogide arvamuste vahel hindamisest ja tulemustasustamisest, et määratleda õpetaja töö aspektid, mida peaks koolides hindama ja tasustama.
7. Välja töötada soovitud koolijuhtidele ja haridusjuhtidele üldhariduskoolide õpetajate töösoorituse hindamise ning tulemustasustamise arendamiseks ning õpetajate töösoorituse hindamise ja tulemustasustamise aluseks olevate hindamiskriteeriumide valikuks.

## Töö uudsus ja praktiline tähtsus

Töö uudsus seisneb selles, et tegemist on süsteemse ja mahuka uuringuga, mis võimaldab teha üldistusi Eesti üldhariduskoolide õpetajate töösoorituse hindamise ja tulemustasustamise kohta. Samuti võimaldab doktoritöö uuring välja tuua kooli juhtimise ja õpetajate tegevuse aspektid, mis mõjutavad töösoorituse juhtimise väljatöötamist ja rakendamist. Doktoritöö raames tehtud uuring on osa Tartu Ülikooli ning Haridus- ja Teadusministeeriumi koostöös algatatud projektist “Üldhariduskoolide tulemuslikkuse ja seda mõjutavate tegurite analüüs“. Sellest tulenevalt annab see Haridus- ja Teadusministeeriumile täiendavat infot Eesti hariduspoliitika kujundamiseks. Doktoritöö autor kuulus projekti alamtöögruppi, mis tegeles õpetajate töösoorituse juhtimise temaatikaga ning kooli tulemuslikkuse karakteristikute mudeli väljatöötamisega, mis võimaldas ühtlasi välja töötada õpetajate töösoorituse hindamise ja tulemustasustamise kriteeriumid. Autor vastutas ka töösoorituse juhtimise osa statistilise analüüsi eest ning töötas sellele tuginedes välja soovitud õpetajate töösoorituse hindamise ja tulemustasustamise kohta.

Lisaks eelnevale on töö oluline väärtus, mis väljendub alljärgnevas:

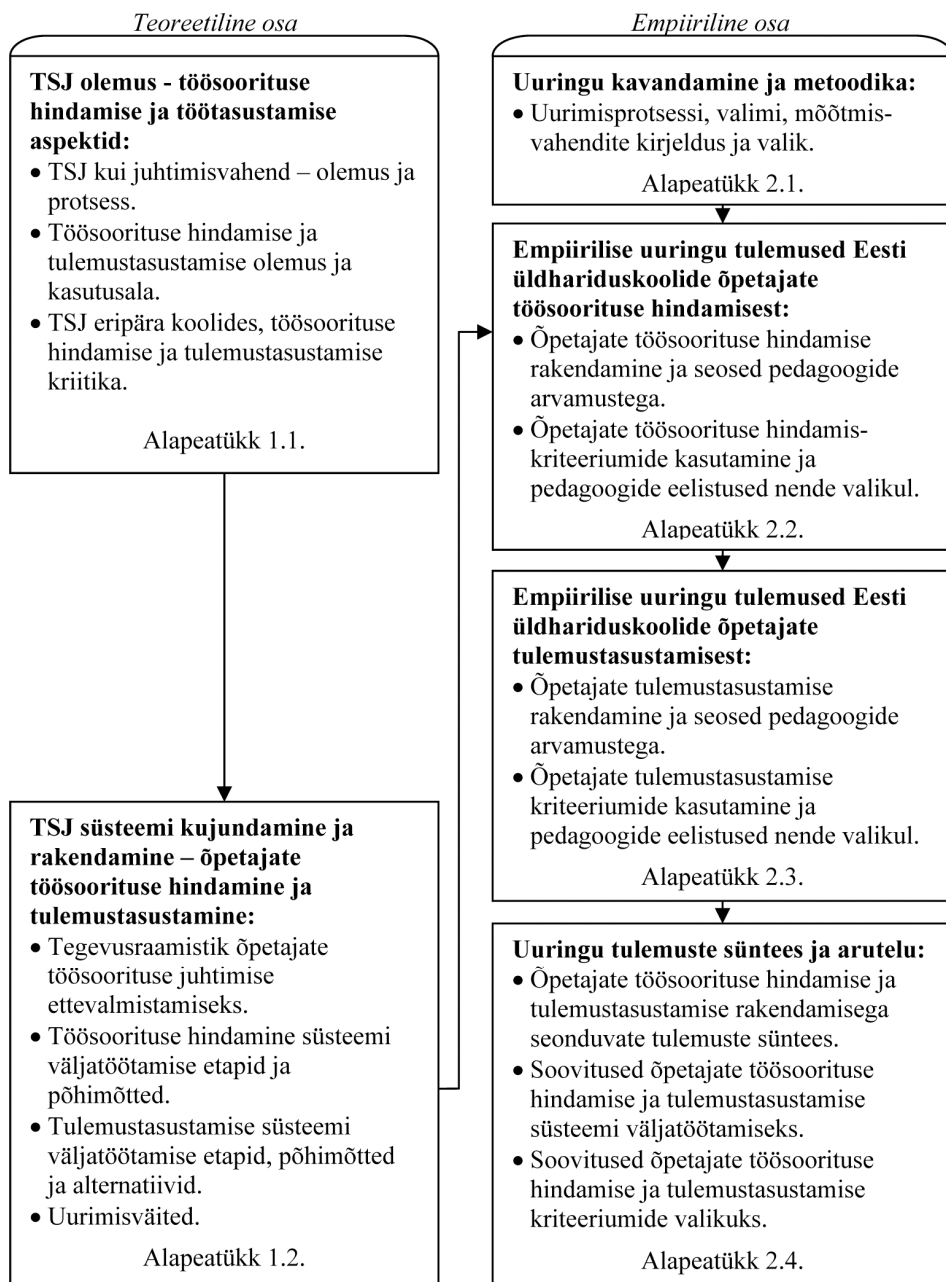
- Õpetajate töösoorituse juhtimise uurimine võimaldab mõista, millised tegevused aitavad tõsta koolide tulemuslikkust ning seega pöörata enam tähelepanu kooli eesmärkide täitmisele. Sellest tulenevalt võib öelda, et uuring on oluliseks sisendiks õpetajate töösoorituse juhtimise süsteemi kujundamiseks ja selle rakendamisega kaasnevate muudatuste juhtimiseks. Õpetajate töösoorituse juhtimisel on koolidele kaks põhilist kasu. Esmalt saavad kasu õpilased, kuna nende õpetajatel on palju täpsem ülevaade õpilaste võimetest ning õpetajad saavad seeläbi pakkuda ka enam toetust ja abi ning julgustada õpilasi püüdlema kõrgemate eesmärkide poole. Teisalt võivad õpetajad, kuna neil on hea võimalus koostöös koolijuhiga jälgida paremini enda töösooritust ja saada selle kohta tagasisidet (DfEE, 2000).
- Uuring õpetajate töösoorituse juhtimise hetkeolukorrast Eesti üldhariduskoolides annab vajalikku teavet õpetajate töösoorituse hindamise ja tulemustasustamise eelistest ja puudustest, mis aitab määratleda võimalused nende arendamiseks. Ühtlasi on see informatsioon väga vajalik inimestele, kes teevad poliitilisi otsuseid, ja ametnikele, kelle tööks on planeerida ning ellu viia Eesti haridusstrateegiat.
- Teadmised seostest kooli juhtimise ja õpetajate tegevuse aspektid ning pedagoogide arvamuste vahel on kasulikud, et töötada välja soovitud õpetajate töösoorituse hindamiseks ja tulemustasustamise kujundamiseks Eesti üldhariduskoolides. Uute juhtimispraktikate kohandamisel tuleb suurt tähelepanu pöörata koostegemisele, kaasates erinevaid huvigruppe kogu protsessi vältel. Pedagoogide positiivne suhtumine uutesse juhtimispraktikatesse on nende rakendamise edukuse eelduseks. Seetõttu tuleb nii personalipoliitika, koolituse kui ka organisatsiooni arenguprogrammide käigus keskenduda arvamuste kujundamisele, et muudatusi oleks võimalik kiiremalt ja valutumalt ellu viia.

- Teave õpetajate arvamustest töösoorituse hindamise ja tulemustasustamise kohta on kasulik koolijuhtidele, kuna see võimaldab hinnata õpetajate eelistusi ja nägemust, mis aitab omakorda koolijuhtidel kujundada motivatsiooni-süsteemi, mis julgustaks õpetajaid kooli eesmärke paremini täitma.
- Olenemata suurest hulgast töösoorituse juhtimise teemalisest kirjandusest (sh teadusartiklitest), on nende allikate põhifookuses tänaseni usaldusväärsete töösoorituse hindamiskriteeriumide valiku küsimus (Fletcher, 2001). Doktoritöö toob välja võimalikud hindamiskriteeriumid nii õpetajate töösoorituse hindamiseks kui ka tulemustasustamiseks. Need põhinevad uuringu tulemustel, aga väljendavad ka autori nägemust.
- Uuringus tuuakse välja soovitud õpetajate töösoorituse hindamise ning tulemustasustamise arendamiseks ja rakendamiseks üldhariduskoolides.
- Doktoritöö tulemusi on võimalik rakendada nii Eesti kui ka teiste riikide üldhariduskoolide juhtimisel, sh õpetajate töösoorituse hindamise ja tulemustasustamise süsteemide arendamisel ja rakendamisel. OECD uurimustest (2008) selgub, et Eesti haridussüsteemi ülesehitus ja põhimõtted on heaks näiteks paljudele teistele riikidele, mistõttu on Eesti praktikate jälgimine kasulik riikidele, kes on oma haridussüsteemi ümber kujundamas.

## **Töö ülesehitus ja teoreetiline tagapõhi**

Doktoritöö koosneb kahest põhiosast (vt joonis 1). Esimene osa on teoreetiline ülevaade ja alus koolide tulemuslikkuse ning õpetajate töösoorituse juhtimise hindamise ja töötasustamise aspektide uurimiseks. See koosneb kahest alapeatükist. Esimene alapeatükk annab ülevaate õpetajate töösoorituse juhtimisest kui juhtimisvahendist ja selle komponentidest. Töös tuuakse välja, kuidas erinevad autorid (Rogers, 2000; Macaulay, Cook, 1994; Winstanley, Stuart-Smith, 1996; Armstrong, 2000; Mwita, 2000; Heinrich, 2002; Smith, Goddard, 2002; Lohman *et al.*, 2004; Hartog *et al.*, 2004) on läbi aegade käsitleanud töösoorituse juhtimist. Tulenevalt töösoorituse juhtimise sõnastamise keerukusest on selle määratlemisel keskendunud protsessikesksusele, mistõttu keskendub ka autor oma doktoritöös kahele olulisele tegevusele – töösoorituse hindamisele ja tulemustasustamisele. Autor defineerib töösoorituse juhtimist kui vahendit organisatsiooni eesmärkide täitmiseks töösoorituse hindamise ja jälgimise ning tulemustele innustamise abil.

Teisalt on enam tähelepanu pööratud töösoorituse juhtimise hindamise ja töötasustamise aspektidele. Seetõttu keskendutakse teoreetilise osa esimeses alapeatükis kooli välis- ja sisehindamise analüüsimisele ning õpetaja töösoorituse hindamise mõistele, piiritledes viimase koha kooli hindamissüsteemis. Doktoritöös käsitletakse õpetajate töösoorituse hindamist kui kooli sisehindamise osa, mis keskendub õpetajate individuaalsete töötulemuste mõtlemisele.



**Joonis 1.** Doktoritöö struktuur.

Märkus: TSJ – töösoorituse juhtimine.

Allikas: autori koostatud.

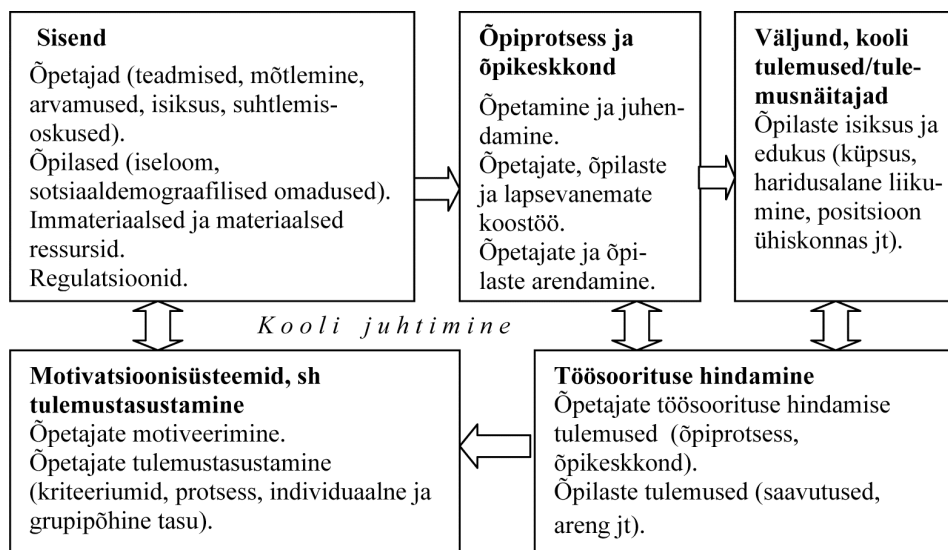
Järgnevalt käsitletakse õpetajate tulemustasustamise olemust, selle eeliseid, puudusi ja kasutamise eesmärgi. Autor käsitleb tulemustasustamist kui rahalist juhtimisvahendit, mis aitab kaasa kooli eesmärkide täitmisele õpetajate

motiveerimisel nii individuaalse töösoorituse kui ka grupipõhiste saavutuste tõstmise abil. Doktoritöös tuuakse välja tulemustasustamise eelised, analüüsitakse erinevaid uuringutulemusi, et leida tõestust tulemustasustamise positiivse mõju kohta kooli tulemusnäitajatele. Välja on toodud erinevad uuringud, mille eesmärgiks on kindlaks määrata rahaliste tasude ja kooli tulemusnäitajate vahelised seosed (Ballou, Podgursky, 1995; Hanushek, 1997; Loeb, Page, 2000; Eberts *et al.*, 2002; Johnson, Birkeland, 2003; Smithers, Robinson, 2003; Rhodes, 2004; Hanushek, Rivkin, 2007; Kingdon, Teal, 2007; Figlio, Kenny, 2007; Atkinson *et al.*, 2009). Mitmetes uuringutes leiti, et õpetajate rahaline tasu tõstab nii kooli kui ka õpilaste tulemusi. Siiski pole need seosed alati nii selged ning sõltuvad suuresti ka kasutatavast uurimismetoodikast. Lisaks on erinevad autorid rõhutanud kooli tulemuslikkuse mõõtmise keerukust ning probleemi saada selleks kätte vajalikke andmeid.

Motivatsiooniteooriatele tuginedes saab välja tuua rahaliste tasude rakendamise põhjendatuse. Carraheri uuringust (2011) selgus, et töötajad on rahulolevad, kui tunnetavad, et neid koheldakse õiglaselt. Selle alla käib ka tajutav õiglustunne seoses töötasuga. Kui töö eest makstav tasu ei vasta töötajate poolt õiglaseks hinnatud palgatasemele, tekitab see neis alamotiveeritust. Eesti haridussektor on viie kõige vähem tasustatud majandussektori hulgas. Samas on aga nõudmised haridustöötajate kvalifikatsioonile ning töösooritusele väga kõrged. Abroidi (2008) uuringu tulemusel selgus, et Eesti õpetajad tunnevad, et nende töö eest ei maksta väärilist tasu, mis on omakorda viinud nende motivatsiooni langusele. Töötajad pingutavad enam, kui neil on lootust saada oma töö eest väärilist tasu. Sellest tulenevalt oleks hea töösoorituse eest makstavad rahalised hüvitised vääriliseks tasuks ka Eesti õpetajatele. Lähtudes Vroomi ootuste teooriast (Vroom *et al.*, 2005), saab õpetajate tulemustasustamist Eesti üldhariduskoolides rakendada vaid eeldustel, kui see on seotud koolide tulemuslikkusega ning õpetajatel on võimalus kooli tulemusnäitajaid oma tegevusega mõjutada. Samuti on oluline eeldus, et õpetajad väärtustavad rahalisi hüvitisi.

Kuna doktoritöö on kirjutatud Eesti üldhariduskoolide näitel, keskendub autor õpetajate töösoorituse hindamise ja tulemustasustamise eripärade väljatoomisele haridussektoris. Selleks, et mõista õpetajate töösoorituse hindamise ja tulemustasustamise vahelisi seoseid ning rolli kooli juhtimises, analüüsib autor haridusprotsessi sisend-väljund mudeli abil (vt joonis 2). Väljundina vaadatakse kooli tulemusnäitajaid, mille täitmise poole koolid püüdlevad. Motivatsioonisüsteemide, sh tulemustasustamise abil saavutatakse kvaliteetsem õppetöö, õpetajaameti suurem populaarsus ning õpetajate aktiivsem enesetäiendamine (Performance-Pay for Teachers..., 2007; Wyman, Allen, 2001; Türk, 2008).



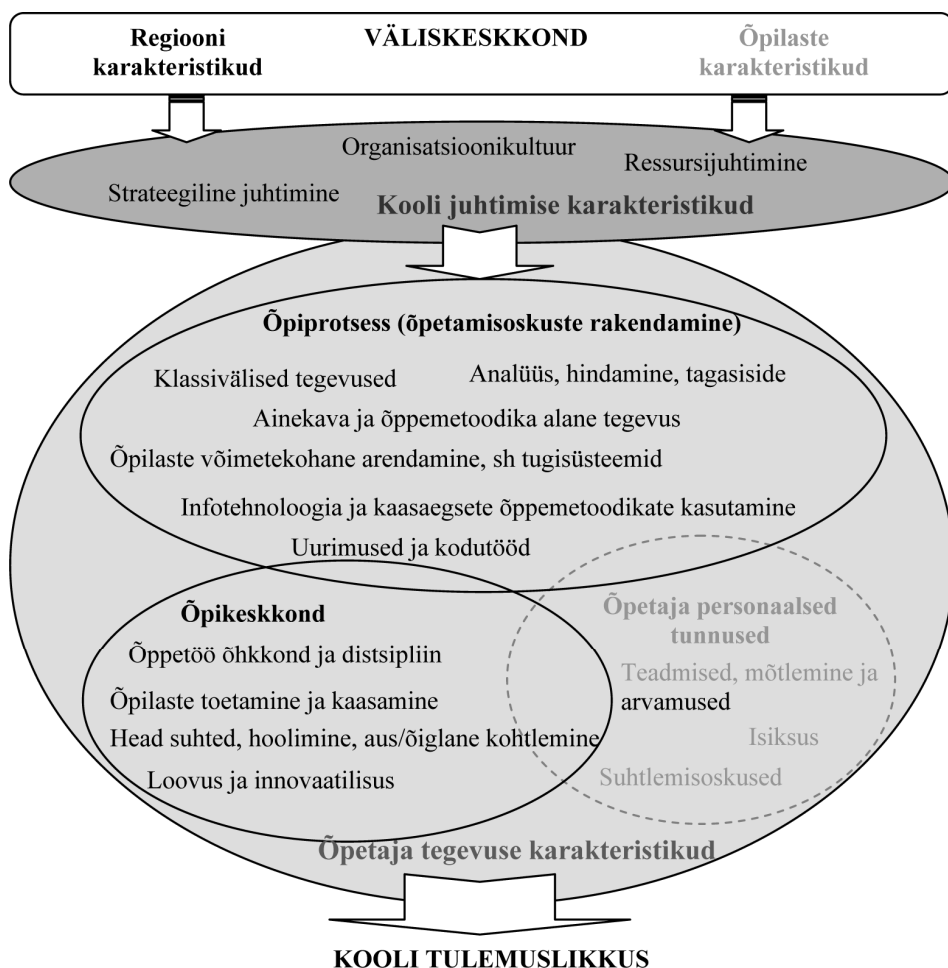


**Joonis 2.** Haridusprotsessi mudel – õpetajate töösoorituse hindamise, motivatsioonisüsteemi ja kooli tulemusnäitajate vahelised seosed.

Allikas: Irs *et al.*, 2009.

Protsessi, mille kaudu sisendid väljunditeks muudetakse, tuleks pidevalt analüüsida ja anda tagasisidet õpetajate töösoorituse kohta. Vaja on hinnata kooli eesmärkide saavutamiseks olulisi tegevusi, sh õpetajate töösooritust. Häid tulemusi kooli eesmärkide täitmisel tuleks omakorda vääriliselt tasustada. Kõik see peaks motiveerima õpetajaid otseselt täitma kooli eesmärke. Seega toimib motivatsioonisüsteem kui sisend, mis tagab kooli parema väljundi.

Hariduspoliitikas tehakse sageli otsuseid ülaltoodud sisend-väljund mudeli põhjal. Samas pole sisendi ja väljundi vahel leitud selget seost ning seega ei pruugi sisendi rahastamine tagada väljundi saavutamist (Worthington, 2001). Samuti on väga raske otseselt määratleda sisendit ja väljundit, kuna neil on palju erinevaid mõjutegureid (Brown, Saks, 1975; Hansuhek, 1981). Sisendid ja väljundid tuleb ka koolitüüpide lõikes erinevalt defineerida ja nende hindamiseks erinevaid hindamiskriteeriume kasutada. Vaadeldava mudeli rakendamist komplitseerivad ka haridusjuhtide põhjendamatult suured ootused sisendile. Sageli ollakse arvamusel, et rahaliste vahendite suunamine sisendisse aitab suurendada väljundit. Sellest tulenevalt tehakse sisendite ja väljundite defineerimisel suuri lihtsustusi, mistõttu ei saa nende mudelite põhjal vastu võtta konstruktiivseid hariduspoliitilisi otsuseid. Kombineerides diskussiooni õpetajate töösoorituse juhtimise olemusest ja haridusprotsessist, saab presenteerida kooli tulemuslikkuse karakteristikute mudelit (vt joonis 3).



**Joonis 3.** Kooli tulemuslikkuse karakteristikute mudel.

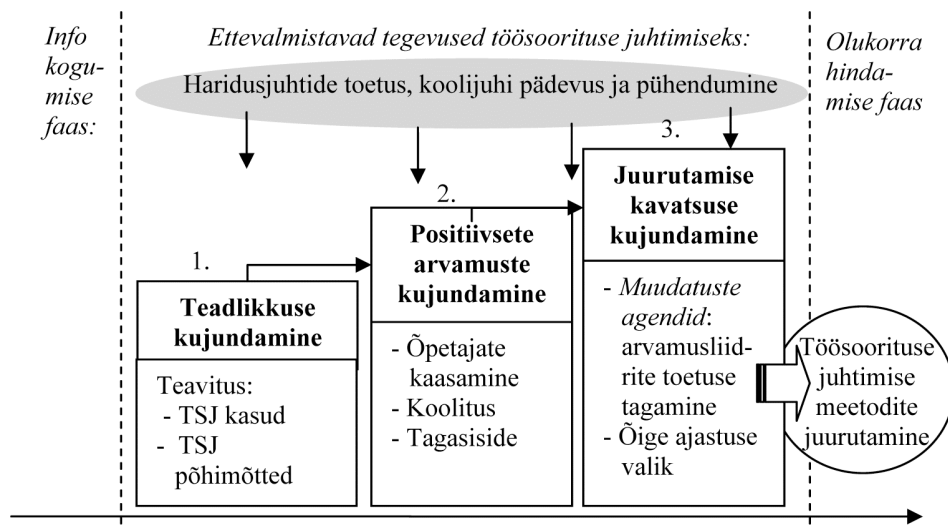
Märkus: halli värviga märgitud tegureid – õpilaste karakteristikuid ja õpetaja personaalseid tunnuseid (v.a arvamused) uuringus ei käsitletud.

Allikas: autori koostatud tuginedes Macaulay, Cook, 1994; Dransfield, 2000; Department of Education, 2000; Smith, Goddard, 2002; Holbeche, 2005; Alberta Education, 2005; Professional Standards for Teachers..., 2007.

Kooli tulemuslikkuse karakteristikute mudel kirjeldab kooli tulemuslikkuse kujunemist, mistõttu on see raamistik sobivaks aluseks ka õpetajate töösoorituse hindamise ja tulemustasustamise kriteeriumide väljatöötamisel. Tegemist on põhimõtteliselt Inglismaa õpetajate töösoorituse juhtimise aluseks oleva õpetaja efektiivsuse mudeli edasiarendusega (Department of Education, 2000). Kooli tulemuslikkuse karakteristikute mudel tähtsustab lisaks õpetaja tegevusele ka kooli juhtimist kui olulist aspekti kooli tulemuslikkuse saavutamisel. Seega eeldab autor, et paremaid kooli tulemusnäitajaid on võimalik saavutada vaid juhtimise ja õppetöö koostöös. Nimetatud mudelis on eelkõige tähtsustatud strateegilise juhtimise, ressursijuhtimise ning organisatsioonikultuuri rolli.

Nimetatud mudel oli oluliseks raamistikuks uuringu planeerimisel, teostamisel ning analüüsil. Lisaks eelnevale analüüsitakse teaduskirjanduses esitatud õpetajate töösoorituse hindamise ja tulemustasustamise kriitikat haridussektori kontekstis.

Teoreetilise osa teises alapeatükis keskendutakse õpetajate töösoorituse juhtimise hindamise ja töötasustamise aspektide väljatöötamisele ja rakendamisele. Kuna aga uute juhtimispraktikate elluviimine toob kaasa vastuseisu muudatustele, toob autor teoreetilise osa teises alapeatükis välja tegevusraamistiku töösoorituse juhtimise ettevalmistamiseks (vt joonis 4).



**Joonis 4.** Tegevusraamistik töösoorituse juhtimise ettevalmistamiseks koolides.

Märkus: TSJ – töösoorituse juhtimine; Erinevad faasid on üksteisest eraldatud vertikaalse katkendliku joonega.

Allikas: autori koostatud tuginedes Aladwani, 2001; Armenakis, Harris, 2002; Johnson *et al.*, 2006.

Uute juhtimispraktikate juurutamisel Eesti haridussüsteemis on kesksel kohal ettevalmistavad tegevused nii poliitilisel kui ka kooli juhtimise tasandil. Lisaks tuuakse teoreetilise osa teises peatükis välja soovituslikud etapid õpetajate töösoorituse hindamise süsteemi väljatöötamiseks. See raamistik võimaldab mõista, millised kooli juhtimise ja õpetaja tegevuse aspektid mõjutavad õpetajate töösoorituse hindamise süsteemi kujundamist ja rakendamist. Nimetatud alapunktis esitatakse ka uurimisväited õpetajate töösoorituse hindamise kohta. Sarnaselt töösoorituse hindamisele tuuakse välja ka soovituslikud etapid õpetajate töötasustamissüsteemi väljatöötamiseks tulemustasustamise aspektidest lähtuvalt. Lisaks analüüsitakse erinevaid alternatiive õpetajate tulemustasustamiseks ning defineeritakse tulemustasustamist puudutavad uurimisväited.

Kokkuvõttes saab välja tuua, et Eesti üldhariduskoolide toimimismehhanism on suuresti üles ehitatud autonoomiale, tulemusvastutusele ja lapsevanema

vabadusele lapse kooli valikul, mis loob soodsa pinnase õpetajate töösoorituse juhtimiseks. Autonoomia, tulemusvastutus ja valik on koolides kaasa toonud mitmeid olulisi struktuuralseid muudatusi (Ferlie *et al.*, 1996; Pont *et al.*, 2008; Tolofari, 2005). Muutunud on rollid ja suhted nii koolisisesele kui ka -välisele. Siinkohal saab näiteks tuua õpetajate ja teiste sihtgruppide osalemise kooli otsustusprotsessides ning tugevama koostöö kooli erinevate huvigruppidega. Muutunud on kooli juhtimine, kuna kool tegeleb ise planeerimise, eelarvestamise, ressursijuhtimise, inimressursside juhtimise, õpetajate hindamise ja töötasustamisega. Koolijuhi roll on muutunud ligilähedaseks ettevõtte juhi rollile, mistõttu on koolijuhtidel suurem vajadus juhtimis- ja eestvedamise oskuste järele (Cranston, 2002).

Eesti üldhariduskoolid on küll autonoomsed, kuid tegemist on kombinatsiooniga kohalike omavalitsuste ja koolide võimustamisest. Näiteks selgub OECD (2008) uuringu tulemustest, et 66 protsenti otsustest Eesti koolides tehakse kooli tasandil, 30 protsenti kohaliku omavalitsuse tasandil ning vaid neli protsenti riiklikul tasandil. Detsentraliseerimine ja sellega kaasnev autonoomsus toob endaga kaasa suurema aruandekohustuse. Üheks selle väljundiks on hindamise rolli tähtsustamine. OECD-TALIS uuringu tulemused viitavad, et 2007.–2008. aastal oli Eesti haridussüsteemis välishindamine võrreldes sisehindamisega olulisem. 23,9 protsenti Eesti koolidest vastas, et viimase viie aasta jooksul ei ole nad koolides kordagi sisehindamist teinud. Viimase viie aasta jooksul on aga välishindamist tehtud 47,8 protsendis Eesti koolides. Kuna alates 2010. aasta jaanuarist on sisehindamine muutunud koolidele kohustuslikuks, võib eeldada, et olukord on tänaseks muutunud.

Oluliseks trendiks arenenud riikide haridussüsteemides on ka valikuvabaduse andmine lapsevanematele oma lapse kooli valikul (Pont *et al.*, 2008). Seda tehakse eesmärgiga tõsta koolidevahelist konkurentsi ning orienteeritust paremate tulemuste saavutamisele (OECD, 2010). Eesti lapsevanematele on lapse kooli valikul antud küllalt suur vabadus. Olenemata sellest, et lastele on algselt garanteeritud kodulähedane kool, ei ole seatud piiranguid teiste koolide valikuks. Kuna aga Eesti üldhariduskoolide eelarve on sõltuv õpilaste arvust ning vanematel on vabadus kooli valida, on koolid kõrgelt motiveeritud oma tulemusnäitajaid tõstma. Lapse kooli valitakse kõige sagedamini kooli tulemusnäitajatele tuginedes.

Doktoritöö teises osas esitatakse Eesti üldhariduskoolide õpetajate töösoorituse hindamise ja tulemustasustamise empiirilise uuringu tulemused. Esmalt tutvustatakse uuringu kavandamist ja metoodikat. Selleks kirjeldatakse uurimisprotsessi, valimit ning argumenteeritakse mõõtmisvahendite valiku üle. Teiseks analüüsitakse empiirilise uuringu tulemusi õpetajate töösoorituse hindamisest. Selleks tuuakse esmalt välja seosed õpetajate töösoorituse hindamise rakendamise ja pedagoogide arvamuste vahel ning teisalt analüüsitakse õpetajate töösoorituse hindamiskriteeriumide kasutamist ja eelistusi kriteeriumide valikul. Selles alapeatükis tuuakse välja tulemused, kuidas kooli juhtimine ja õpetajate tegevus on seotud pedagoogide arvamustega nende koolides rakendatavast töösoorituse hindamisest. Ühtlasi võimaldab see mõista, milliste

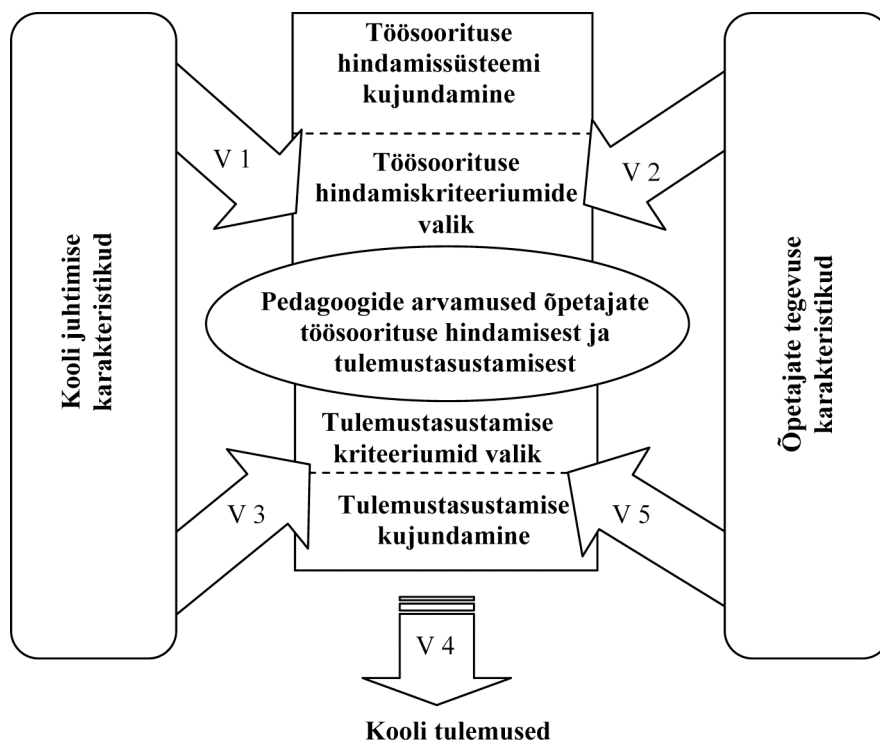
näitajate põhjal hindavad koolid oma tulemusi ning kas need näitajad ühtivad õpetajate töösoorituse hindamise aluseks olevate näitajatega.

Kolmandas alapeatükis analüüsitakse empiirilise uuringu tulemusi õpetajate tulemustasustamisest. Selleks analüüsitakse tulemustasustamise rakendamise ja pedagoogide arvamuste vahelisi seoseid. Lisaks arutletakse tulemustasustamise kriteeriumide kasutamise ja eelistuste üle Eesti üldhariduskoolides. See võimaldab saada kasulikku infot, millised kooli juhtimise ja õpetajate tegevuse aspektid mõjutavad pedagoogide arvamusi nende koolis rakendatavast tulemustasustamisest. Samuti tuuakse välja tulemustasustamise seosed koolide tulemusnäitajatega.

Neljandas alapeatükis keskendutakse uuringu tulemuste sünteesile ja arutelule. Esmalt sünteesitakse töösoorituse hindamise ja tulemustasustamise rakendamist puudutavaid tulemusi, millele tuginedes töötatakse välja ettepanekud õpetajate töösoorituse juhtimise arendamiseks, sh soovitusel õpetajate töösoorituse hindamise ja tulemustasustamise süsteemi kujundamiseks ning töösoorituse hindamise ja tulemustasustamise kriteeriumide valikuks.

Doktoritöö uurimisevõtet ja -raamistik on esitatud joonisel 5. Kuna inimesed käituvad vastavalt oma arvamustele ning positiivsed arvamused aitavad organisatsioonis kergemini muudatusi teha (Aladwani, 2001), on selle uurimuse keskmes õpetajate ja koolijuhtide arvamuste väljaselgitamine ja analüüsimine. Positiivsed arvamused õpetajate töösoorituse hindamisele ja tulemustasustamisele loovad head eeldused õpetajate töösoorituse juhtimise arendamiseks. Hästi toimiv töösoorituse juhtimise süsteem tagab omakorda koolide tulemuslikkuse. Doktoritöö saab jagada tinglikult kaheks osaks. Esimene keskendub õpetajate töösoorituse hindamise temaatikale, teine aga tulemustasustamisele.

Kuna õpetajate töösoorituse hindamise juurutamine koolides on seotud kooli juhtimisega, siis püstitab autor esmalt uurimisevõtte kooli juhtimise ja pedagoogide arvamuste vaheliste seoste kohta õpetajate töösoorituse hindamisel (V1). Selle uurimisevõtte testimine annab väärtuslikku informatsiooni, milliseid kooli juhtimise aspekte ja tegevusi tuleks arvesse võtta, et õpetajate töösoorituse hindamise juurutamine läheks Eesti üldhariduskoolides kiiremini ja ladusamalt.



**Joonis 5.** Eesti üldhariduskoolide õpetajate töösoorituse hindamise ja tulemustasustamise alase uuringu raamistik ja uurimisväited.

Märkus: V: väide või väidete grupp; V1: kooli juhtimine ja pedagoogide arvamused töösoorituse hindamisest; V2: töösoorituse hindamise kriteeriumid; V3: kooli juhtimine ja pedagoogide arvamused tulemustasustamisest; V4: seosed tulemustasustamise ja kooli tulemusnäitajate vahel; V5: tulemustasustamise kriteeriumid.

Allikas: autori koostatud.

Oluline on rõhutada, et õpetajate töösoorituse hindamine Eesti üldhariduskoolides kujundab ka pedagoogide arvamusi töösoorituse juhtimisest kui juhtimisvahendist. Kui näiteks õpetajaid ei kaasata nende töösoorituse hindamise süsteemi väljatöötamise, siis võivad nad tajuda töösoorituse hindamise süsteemi ebaõiglasena ning nende tööpanust objektiivselt mittehindavana. Sellest tulenevalt võivad pedagoogide arvamused töösoorituse hindamisest muutuda negatiivsemaks. Üks suuremaid väljakutseid õpetajate töösoorituse juhtimisest kujundamisel on aga töösooritust usaldusväärselt mõõtvate kriteeriumide valik (V2). Doktoritöös antakse vastus, millistest kriteeriumidest ja näitajatest lähtutakse kooli tulemuste mõõtmisel ning õpetajate töösoorituse hindamisel, tuues välja ka pedagoogide arvamused nende otstarbekusele.

Empiirilise osa teises pooles keskendutakse õpetajate tulemustasustamisele ning püstitatakse uurimisväide tulemustasustamise ja kooli juhtimise aspektide vaheliste seoste kohta (V3). Näiteks tekib õpetajate tulemustasustamise välja töötamisel küsimus õpetajate töösoorituse hindamise ja tulemustasustamise

vaheliste seoste kohta. Tekib küsimus, kas negatiivsed arvamused õpetajate töösoorituse hindamisest põhjustavad ka negatiivseid arvamusi nende tulemustasustamisest. Teadmised kooli juhtimise ja pedagoogide arvamuste vahelistest seostest aitavad mõista, milliseid kooli juhtimise tegevusi tuleb arvesse võtta, et õpetajate tulemustasustamise juurutamine läheks koolides ladusamalt ning tekitaks õpetajates vähem vastuseisu.

Lisaks eeldab autor, et töösoorituse juhtimine, sh eriti tulemustasustamine viib kokkuvõttes kooli kõrgemate tulemusnäitajateni (V4). Eeldatakse, et tulemustasustamist rakendatavatel koolidel on kõrgemad tulemusnäitajad õpilaste akadeemilise tulemuslikkuse osas, samuti on nende koolide kindlustatus nõutava kvalifikatsiooniga õpetajatega parem. Teoreetilises osas püstitatud uurimisväited õpetajate töösoorituse hindamisest ja tulemustasustamisest Eesti üldhariduskoolides näitel on koondatud tabelisse 1.

**Tabel 1.** Empiiriliseks uuringuks püstitatud uurimisväited õpetajate töösoorituse hindamisest ja tulemustasustamisest Eesti üldhariduskoolides.

Kategooria	Alamkategooria	Uurimisväide
Uurimisväited töösoorituse hindamisest	Kooli juhtimine ja pedagoogide arvamused töösoorituse hindamisest	<b>Uurimisväide 1a:</b> <i>Strateegiline juhtimine, ressursijuhtimine ja organisatsioonikultuur</i> on positiivselt seotud pedagoogide arvamustega töösoorituse hindamise rakendamisest nende koolides.
		<b>Uurimisväide 1b:</b> Õpetajate kaasamine töösoorituse hindamissüsteemi kujundamisse on positiivselt seotud nende arvamustega töösoorituse hindamise rakendamisest nende koolides.
	Töösoorituse hindamise kriteeriumid	<b>Uurimisväide 2a:</b> <i>Õpiprotsess ja õpikeskkond</i> on positiivselt seotud pedagoogide arvamustega töösoorituse hindamise rakendamisest nende koolides.
		<b>Uurimisväide 2b:</b> Kooli eesmärkide saavutamist mõõdetakse peamiselt õpilaste akadeemiliste tulemusnäitajate abil.
		<b>Uurimisväide 2c:</b> Õpetajate eelistused õpetajate töösoorituse hindamiskriteeriumide valikul erinevad koolijuhtide eelistustest.
	Uurimisväited tulemustasustamisest	Kooli juhtimine ja pedagoogide arvamused tulemustasustamisest
<b>Uurimisväide 3b:</b> <i>Strateegiline juhtimine, ressursijuhtimine ja organisatsioonikultuur</i> on positiivselt seotud pedagoogide arvamustega tulemustasustamise rakendamisest nende koolides.		

Kategooria	Alamkategooria	Uurimisväide
Uurimisväited tulemus-tasustamisest	Tulemus-tasustamise ja kooli tulemusnäitajate vahelised seosed	<b>Uurimisväide 4a:</b> Tulemustasustamist rakendavatel koolidel on kõrgemad tulemused näitajate osas, mis mõõdavad õpilaste akadeemilist tulemuslikkust.
		<b>Uurimisväide 4b:</b> Tulemustasustamist rakendavatel koolidel on enam nõutava kvalifikatsiooniga õpetajaid.
	Tulemus-tasustamise kriteeriumid	<b>Uurimisväide 5a:</b> <i>Õpiprotsess ja õpikeskkond</i> on positiivselt seotud pedagoogide arvamustega tulemustasustamise rakendamisest nende koolides.
		<b>Uurimisväide 5b:</b> Õpetajate eelistused tulemustasustamise kriteeriumide valikul lähtuvad sellest, et need oleksid võimalikult otseselt seotud nende individuaalse tööga klassiruumis.

Allikas: autori koostatud.

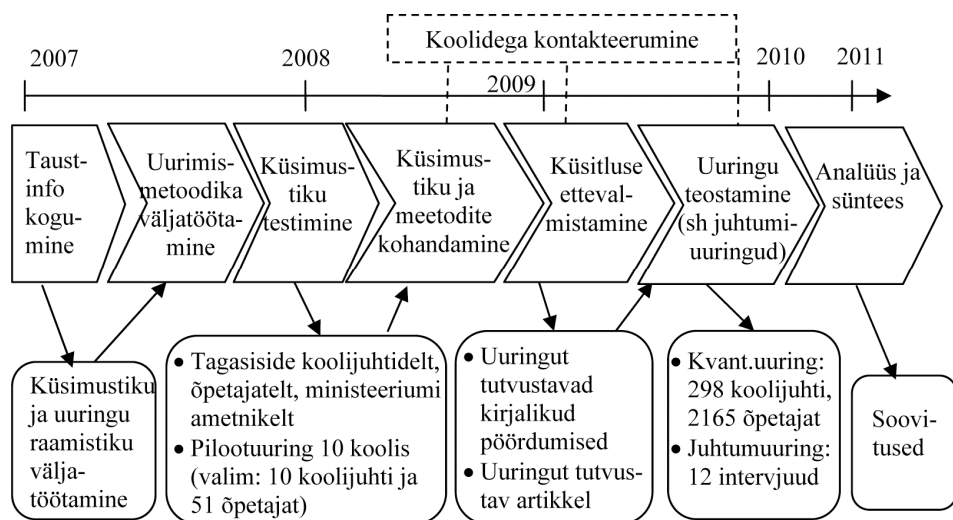
Ülaltoodud uurimisväidete põhjal töötatakse välja soovitud õpetajate töösoorituse hindamise ja tulemustasustamise süsteemi väljatöötamiseks ja juurutamiseks ning töösoorituse hindamise ja tulemustasustamise kriteeriumide valikuks.

## Empiiriline uuring

Doktoritöö uurimisprotsessi, mis kestis perioodil 2007–2010, on kirjeldatud joonisel 6. Doktoritöö on osa projektist “Üldhariduskoolide tulemuslikkuse ja seda mõjutavate tegurite analüüs“, kus osales kolm Tartu Ülikooli uurimisgrupp: finantsjuhtimise, kvaliteedijuhtimise ja õpetajate töösoorituse juhtimise töögrupp. Doktoritöö autor kuulus õpetajate töösoorituse juhtimise töögruppini ning vastutas töösoorituse juhtimise aluseks oleva uurimisraamistiku väljatöötamise eest, samuti õpetajate töösoorituse hindamise ja tulemustasustamise kriteeriumide väljatöötamise eest, mis lisati hindamiseks küsimustikku. Autor vastutas ka õpetajate töösoorituse juhtimist puudutava analüüsi ning õpetajate töösoorituse juhtimise arendamise soovitude väljatöötamise eest.

Esimese etapina kogus ja analüüsis autor nii teoreetilist kui ka empiirilist taustinformatsiooni töösoorituse juhtimise – töösoorituse hindamise ja tulemustasustamise kohta (Ferlie *et al.*, 1996; Department of Education, 2000; Arnott, 2000; Raab, 2000; Alberta Education, 2005; Professional Standards for Teachers..., 2007; Õppeasutuse sisehindamine..., 2008; OECD, 2008; Nikkanen, Lyytinen, 2005).





**Joonis 6.** Doktoritöö uuringuprotsess.

Märkus: plokknooltel on märgitud uuringuprotsessi põhitegevused. Tegevuste tulemused on märgitud nooltega ühendatud kastidesse. Toetav tegevus uuringu osalusmäära tõstmiseks on märgitud katkendliku joonega kasti.

Allikas: autori koostatud.

Kogutud taustainfole tuginedes töötati välja uuringu raamistik, mis kirjeldaks kooli tulemuslikkuse kujunemise protsessi. See võimaldas töötada välja kooli tulemuslikkuse karakteristikute mudeli, mis oli aluseks doktoritöö empiirilise uuringu tegemisel Eesti üldhariduskoolides. Mudel võimaldab välja tuua ka võimalikud hindamiskriteeriumid nii õpetajate kui ka koolijuhtide töösoorituse hindamiseks ja tasustamiseks.

Eesti üldhariduskoolides tehtud uuring oli peamiselt kvantitatiivne. Empiirilise uuringu ankeet koostati tuginedes kogutud andmetele, loodud mudelile (joonis 3, lk 280) ning põhinedes mitmetel Tartu Ülikooli ning Haridus- ja Teadusministeeriumi ühistes töögruppides tehtud otsustele. Olulist sisendit ankeedi koostamisel andsid ka Kulno Türgi 2000.–2008. aastatel Eesti koolijuhtide täiendkoolituste raames tehtud juhtumiuuringute tulemused.

Väljatöötatud küsimustikku testiti esmalt mõne koolijuhi, õpetaja ja Haridus- ja Teadusministeeriumi töötaja peal. Pärast küsimustiku esmast testimist tehti ka pilootuuring juhuslikult valitud kümnes Eesti üldhariduskoolis kolmest eri maakonnast – Läänemaa (3 kooli), Viljandimaa (4 kooli) ja Tartumaa (3 kooli). Pilootuuringus osales kokku 51 õpetajat ja 10 koolijuhti. Pilootuuringu tulemuste põhjal korregeeriti ankeeti sisuliselt ning täiustati tehniliselt ja vormilt.

Põhiuuring tehti 2009. aasta novembrist kuni 2010. aasta jaanuarini. Uuringu üldkogumisse kuulusid kõikide Eesti üldhariduskoolide õpetajad, kes õpetavad 9. ja 10. klassi õpilasi ning nende koolide juhid. Üldkogumisse kuulus 487 koolijuhti. 2008/2009. õppeaasta tulemustel õpetab kolmandas kooliastmes (7.–9. klass) ja gümnaasiumiastmes kokku 10 776 õpetajat, kellest 5772 õpetab üheksanda ja kümnenda klassi õpilasi. Kvantitatiivne uuring tehti nii kirjalikult

kui ka elektrooniliselt. Elektroonilise ankeedi puhul kasutati e-formulari (elektroonilist vahendit), mis võimaldas viia küsitluse läbi Internetis. Suurem osa täidetud ankeetidest laekus elektroonilisel kujul. Vaid kaks koolijuhti (0,7 protsenti) ja 40 õpetajat (1,8 protsenti) tagastasid küsimustiku paber kandjal traditsioonilise posti teel. Kokkuvõttes osales uuringus 2165 üheksandas ja kümnendas klassis õpetavat õpetajat (37,5 protsenti kõikidest kolmandas kooliastmes ja gümnaasiumiastmes õpetavatest õpetajatest) ning 298 koolijuhti (61,2 protsenti kõikidest üldkogumis olnud koolijuhtidest).

Kogutud andmete analüüsimisel kasutati statistikatarkvara SPSS, millega tehti kirjeldav statistika analüüs, korrelatsioon- ning graafikute analüüs. Samuti testiti *Mann-Whitney U-testi*, *Independent Samples t-testi* ja *Wilcoxon Signed Rank Sum testi* abil valimite keskmiste erinevusi. Nimetatud meetodeid kasutati nii õpetajate töösoorituse hindamist kui ka tulemustasustamist puudutava uuringu korral (vt tabel 2 ja 3). Lisaks kasutatakse osaliselt projekti “Üldhariduskoolide tulemuslikkuse ja seda mõjutavate tegurite analüüs” käigus tehtud uurivat faktoranalüüsi, faktorite usaldusväarsuse testimist ja regressioonanalüüsi.

Lisaks kvantitatiivsetele andmetele sisaldas uuringu küsimustik mõningaid avatud vastustega küsimusi. Avatud vastustega küsimusi esitati lisainformatsiooni saamise eesmärgil Eesti üldhariduskoolides kasutatavate õpetajate töösoorituse hindamise ja tulemustasustamise kriteeriumide kohta, aga ka selleks, et saada teavet põhjustest, miks koolides tulemustasustamist ei rakendata ning milliseid tulemusnäitajaid väärtustatakse uurimisel koolides. Avatud küsimuste vastuste analüüsimisel kasutati nii *a priori* kui ka põhistatud kodeerimist. *A priori* kodeerimisel lähtutakse juba eelnevalt püstitatud teemade raamistikust (Taylor, Gibbs, 2010). Näiteks tugineti doktoritöös kodeerimisel uuringuks püstitatud uurimisväidetele, küsimustikule ning teoreetilises osas tõstatatud teemadele. Põhistatud kodeerimist kaasati, kuna see võimaldab koodidel tekstist selle lugemise hetkel esile tõusta (Taylor, Gibbs, 2010). Seega võimaldab selline kodeerimine saada lisainformatsiooni ning ei ole piiratud etteantud uurimisraamistikust. Põhistatud kodeerimine on eriti kasulik koolides rakendatavate töösoorituse hindamise ja tulemustasustamise kriteeriumide määratlemisel.

Uuringu käigus üles kerkinud küsimustele vastuste saamiseks tehti kolmes Eesti üldhariduskoolis ka juhtumiuuringud. Juhtumiuuringute raames tehti 12 intervjuud, kus igast uuritavast koolist küsitleti kolme õpetajat ja selle kooli juhti. Intervjuude aluseks oli juhtumiuuringute küsimustik, mis pandi kokku tuginedes eelnevale kvantitatiivsele analüüsile ja selle tulemustele. Juhtumiuuringu käigus tehtud intervjuud lindistati ning transkribeeriti. Tulemuste analüüsiks kasutati taas nii *a priori* kodeerimist kui ka põhistatud kodeerimist.

**Tabel 2.** Õpetajate töösoorituse hindamist puudutavate uurimisväidete testimise metodoloogia.

Uurimisväite testimise eesmärk	Andmete tüüp	Meetodid	Andmed	Tulemused
<b>Temaatika: Töösoorituse hindamise kujundamisega kaasnevad kooli juhtimise aspektid</b>				
<b>Uurimisväited 1a, 1b.</b> 1. Teha kindlaks, millised KJ karakteristikud on seotud pedagoogide arvamustega TSH-st. 2. Leida tõestust, kas KJ karakteristikud põhjustavad gruppidevahelisi erinevusi pedagoogide arvamustes. 3. Leida, kas õpetajate kaasamine TSH kujundamisse on seotud nende positiivsete arvamustega koolides rakendatavast TSH-st.	Kvant. andmed pedagoogide arvamustest (5-palliskaalas) kooli strateegilisest ja ressursijuhtimisest ja OK-st ning koolides rakendatavast TSH-st. Kvant. andmed õpetajate kaasamisest TSH väljatöötamise ja arvamustest TSH-st (5-palliskaala). Juhtumiuuringute transkriptsioonid.	Korrelatsioonanalüüs (Spearman), * faktor- ja regressioonanalüüs. Mann-Whitney U-test ja kirjeldav statistika. <i>A priori</i> ja põhistatud kodeerimine.	Pedagoogide arvamused, valimi suurus 2463. Õpetajate arvamused, valimi suurus 2165. 12 intervjuud 3 koolist.	Soovitused kooli juhtimise arendamiseks, mida tuleks õpetajate töösoorituse hindamise kujundamisel silmas pidada.
<b>Temaatika: töösoorituse hindamise kriteeriumide valik</b>				
<b>Uurimisväited 2a, 2b, 2c</b> 1. Teha kindlaks, millised õpetaja tegevuse karakteristikud on seotud pedagoogide arvamustega TSH-st. 2. Leida tõestust, kas need õpetajate tegevuse karakteristikud põhjustavad gruppidevahelisi erinevusi pedagoogide arvamustes. 3. Määratleda põhilised tulemusnäitajad Eesti üldhariduskoolides.	Kvant. andmed pedagoogide arvamustest (5-palliskaalas) ÕP-st ja ÕKK-st ning koolides rakendatavast TSH-st. Kvant. andmed pedagoogide arvamustest (5-palliskaalas) TSH kriteeriumidest. Kvalit. vastused kooli tulemusnäitajate kohta. Juhtumiuuringute transkriptsioonid.	Korrelatsioonanalüüs (Spearman), * faktor- ja regressioonanalüüs. Mann-Whitney U-test ja kirjeldav statistika. <i>A priori</i> ja põhistatud kodeerimine.	Pedagoogide arvamused, valimi suurus 2463. 3450 avatud vastust. 12 intervjuud 3 koolist.	Soovitused hindamiskriteeriumide valikuks.

Uurimisväite testimise eesmärk	Andmete tüüp	Meetodid	Andmed	Tulemused
4. Määratleda erinevused koolijuhtide ja õpetajate eelistustes TSH kriteeriumide valikul.				

Märkus: (vaata uurimisväiteid tabelist 1, lk 285–286); TSH – töösoorituse hindamine; KJ – kooli juhtimine; ÕP – õpiprotsess; ÖKK – õpikeskkond; OK – organisatsioonikultuur; \* projekti “Üldhariduskoolide tulemuslikkuse ja seda mõjutavate tegurite analüüs” raames tehtud faktor- ja regressioonanalüüs (Türk *et al.*, 2011). Allikas: autori koostatud.

**Tabel 3.** Õpetajate tulemustasustamist puudutavate uurimisväidete testimise metodoloogia.

Uurimisväite testimise eesmärk	Andmete tüüp	Meetodid	Andmed	Tulemused
<b>Temaatika: tulemustasustamise kujundamisega kaasnevad kooli juhtimise aspektid</b>				
Uurimisväited 3a, 3b, 4a, 4b. 1. Leida, kas TSH rakendamine on seotud pedagoogide arvamustega TT-st. 2. Teha kindlaks, millised KJ karakteristikud on seotud pedagoogide arvamustega TT-st. 3. Leida tõestust, kas KJ karakteristikud põhjustavad gruppidevahelisi erinevusi pedagoogide arvamustes. 4. Selgitada, kas TT rakendavatel koolidel on kõrgemad tulemusnäitajad.	Kvant. andmed pedagoogide arvamustest (5-palliskaalas) strateegilisest juhtimisest, ressursijuhtimisest ja OK-st ning koolides rakendatavast TT-st. Kvant. andmed pedagoogide arvamustest TSH-st ja TT-st. Avatud vastused koolide tulemusnäitajatest (väljavõte EHIS-st) ja TT rakendamisest (jah/ei). Juhtumiuuringute transkriptsioonid.	Korrelatsioonanalüüs (Spearman), * faktor- ja regressioonanalüüs. Mann-Whitney U-test ja kirjeldav statistika. <i>A priori</i> ja põhistatud kodeerimine.	Pedagoogide arvamused, valimi suurus 2463. 487 kooli tulemusnäitajad.	Soovitused kooli juhtimise arendamiseks, mida tuleks tulemustasustamise kujundamisel silmas pidada.

Uurimisväite testimise eesmärk	Andmete tüüp	Meetodid	Andmed	Tulemused
<b>Temaatika: tulemustasustamise kriteeriumide valik</b>				
Uurimisväited 5a, 5b 1. Teha kindlaks, millised õpetaja tegevuse karakteristikud on seotud pedagoogide arvamustega TT-st. 2. Leida tõestust, kas need õpetajate tegevuse karakteristikud põhjustavad gruppidevahelisi erinevusi pedagoogide arvamustes. 3. Määratleda erinevused koolijuhtide ja õpetajate eelistustes TT kriteeriumide valikul.	Kvant. andmed pedagoogide arvamustest (5-palliskaalas) ÕP-st ja ÕKK-st ning koolides rakendatavast TT -st. Kvant. andmed pedagoogide arvamustest (5-palliskaalas) TT kriteeriumidest. Avatud vastused koolides kasutatavatest TT kriteeriumidest. Juhtumiuuringute transkriptsioonid.	Korrelatsioonanalüüs (Spearman), * faktor- ja regressioonanalüüs. Mann-Whitney U-test ja kirjeldav statistika. <i>A priori</i> ja põhistatud kodeerimine.	Pedagoogide arvamused, valimi suurus 2463. 1388 avatud vastust TT kriteeriumidest. 12 intervjuud 3 koolist.	Soovitused tulemustasustamise kriteeriumide valikuks.

Märkus: (vaata uurimisväiteid tabelist 1, lk 285–286); TSH – töösoorituse hindamine; TT – tulemustasustamine; KJ – kooli juhtimine; ÕP – õpiprotsess; ÕKK – õpikeskkond; OK – organisatsioonikultuur; \* projekti “Üldhariduskoolide tulemuslikkuse ja seda mõjutavate tegurite analüüs” raames tehtud faktor- ja regressioonanalüüs (Türk *et al.*, 2011). Allikas: autori koostatud.

## Töös püstitatud uurimisväited ja nende analüüsi tulemused

Käesolev alapunkt annab ülevaate testitud uurimisväidete tulemustest. Doktoritöös püstitati teoreetilistele argumentidele ja varasematele empiirilistele uuringutele tuginedes uurimisväited, mida saab jagada viide gruppi: 1) väited kooli juhtimise ja pedagoogide arvamuste vaheliste seoste kohta õpetajate töösoorituse hindamisel; 2) väited õpetajate töösoorituse hindamiskriteeriumidest; 3) väited kooli juhtimise ja pedagoogide arvamuste vaheliste seoste kohta õpetajate tulemustasustamisel; 4) väited õpetajate tulemustasustamise ja kooli tulemuste vaheliste seoste kohta; 5) väited õpetajate tulemustasustamise kriteeriumidest.

**V1a: *Strateegiline juhtimine, ressursijuhtimine ja organisatsioonikultuur on positiivselt seotud pedagoogide arvamustega töösoorituse hindamise rakendamises nende koolides.***

Väide leidis kinnitust, kuna korrelatsioonanalüüsi tulemused viitasid positiivsetele ning statistiliselt olulistele seostele kooli juhtimise aspektide ning pedagoogide arvamuste vahel koolides rakendatavast õpetajate töösoorituse hindamisest. Kooli strateegilise juhtimise ning pedagoogide arvamuste vahel koolides rakendatavast õpetajate töösoorituse hindamisest olid keskmised kuni võrdlemisi tugevad seosed (korrelatsioonikordaja varieerus vahemikus 0,17–0,45). Kooli ressursijuhtimise ja pedagoogide arvamuste vahel koolides rakendatavast õpetajate töösoorituse hindamisest olid samuti keskmised kuni võrdlemisi tugevad seosed (korrelatsioonikordaja väärtus 0,2–0,44). Kooli organisatsioonikultuuri ning pedagoogide arvamuste vahel koolides rakendatavast õpetajate töösoorituse hindamisest oli nõrgad kuni suhteliselt tugevad seosed (korrelatsioonikordaja väärtus 0,16–0,46). Juhtumiuuringud tõestasid kooli juhtimise aspektide olulisust töösoorituse hindamise süsteemi kujundamisel ja rakendamisel.

Ka autori poolt täiendavalt tehtud regressioonanalüüsi tulemused näitavad, et kooli strateegilise juhtimise, ressursijuhtimise ja organisatsioonikultuuri ning pedagoogide arvamuste vahel õpetajate töösoorituse hindamise mõjust nende töötulemustele on positiivsed seosed (Türk *et al.*, 2011)\*. Uuringu põhjal saab väita, et mida pädevamalt korraldatud on kooli strateegiline juhtimine, organisatsioonikultuur ja ressursijuhtimine, seda positiivsemad on arvamused õpetajate töösoorituse hindamisest kui juhtimisvahendist. Tulemused on ootuspärased, kuna vastuseis õpetajate töösoorituse hindamisele on seda väiksem, mida väiksem on õpetajate võimalus saada oma töö kohta negatiivset tagasisidet. Seega võib väita, et kui kooli juhtimine on kõrgetasemeline, on negatiivse tagasiside saamine vähetõenäoline. Teisalt loob tugev kooli organisatsioonikultuur ja inimressursi juhtimine avatud ja pühendunud õhkkonna ning ka ühise arvamuse hästi toimivast õpetajate töösoorituse hindamisest. Leitud tulemused rõhutavad õpetajate kaasamise vajadust nende töösoorituse hindamise väljatöötamise ja rakendamise, koolijuhtide eetilist käitumist, õpetajate saavutuste väärtustamist ning häid omavahelisi suhteid.

**V1b: *Õpetajate kaasamine töösoorituse hindamissüsteemi kujundamisse on positiivselt seotud nende arvamustega töösoorituse hindamise rakendamisest nende koolides.***

Väide leidis kinnitust. Tulemused näitasid, et mida enam kaasatakse õpetajaid oma töösoorituse hindamissüsteemi väljakujundamisse, seda positiivsemad on nende arvamused õpetajate töösoorituse hindamisest nende koolides. Seda kinnitasid nii korrelatsioonanalüüsi tulemused (korrelatsioonikordajad õpetajate kaasamise ja õpetajate töösoorituse hindamist puudutavate erinevate väidete

---

\* Doktoritöö autor osales põhitäitjana projektis “Üldhariduskoolide tulemuslikkuse ja seda mõjutavate tegurite analüüs”.

vahel varieerusid 0,47-st kuni 0,7-ni) kui ka erinevate vastajategruppide keskmiste võrdlused (Mann Whitney U-testi tulemused). Autor võrdles nende õpetajate arvamusi, kes olid hindamissüsteemi kujundamisse kaasatud, nende õpetajate arvamustega, keda oli sellest protsessist välja jäetud. Hindamissüsteemi kujundamisse kaasatud õpetajad suhtusid õpetajate töösoorituse hindamisse märksa positiivsemalt. Lisaks näitasid uuringu tulemused õpetajate rahulolematust ja info puudust seoses nende vähese ning süsteemitu kaasamisega hindamissüsteemi väljakujundamisse. Õpetajatel on madalamad arvamused (keskmine 3,61, standardhälve 1,05) kaasamisest võrreldes kooli juhtidega (keskmine 3,97, standardhälve 0,78). Õpetajate ebapiisav kaasamine on toonud kaasa ka teisi probleeme õpetajate töösoorituse hindamises. Näiteks kaheldakse selle õigluses, ei usuta selle efektiivsusesse ning tagasisidet peetakse ebapiisavaks. Ka juhtumiuuringute tulemused näitavad, et koolides, kus õpetajatel ei olnud võimalust kujundada õpetajate töösoorituse hindamise süsteemi, olid õpetajate arvamused töösoorituse hindamisest negatiivsemad.

**V2a: Õpiprotsess ja õpikeskkond on positiivselt seotud pedagoogide arvamustega töösoorituse hindamise rakendamisest nende koolides.**

Väide leidis kinnitust. Korrelatsioonianalüüsi tulemused viitasid statistiliselt olulistele positiivsetele seostele õpetajate tegevuse aspektide ja pedagoogide arvamuste vahel koolides rakendatavast töösoorituse hindamisest. Seosed õpiprotsessi ja pedagoogide arvamuste vahel õpetajate töösoorituse hindamise kohta olid keskmise või võrdlemisi suure tugevusega (korrelatsioonikordajad varieerusid vahemikus 0,22–0,38). Samad näitajad õpikeskkonna suhtes olid enam-vähem sama tugevad (korrelatsioonikordaja väärtused 0,22–0,34).

Täiendavalt tehtud regressioonanalüüsi tulemused viitasid samuti statistiliselt oluliselt positiivsetele seostele õpiprotsessi ja pedagoogide arvamuste vahel õpetajate töösoorituse hindamise mõjust nende töötulemustele. Samas ei leitud regressioonanalüüsi abil seoseid aga õpikeskkonna ja pedagoogide arvamuste vahel õpetajate töösoorituse hindamise mõjust nende töötulemustele. Seega võib öelda, et mida positiivsemad on arvamused õpiprotsessile koolis, seda positiivsemad on pedagoogide arvamused töösoorituse hindamisest. Kuna õpetajate eelistused töösoorituse hindamiskriteeriumide valikul olid seotud nende tööga klassiruumis, on leitud tulemus ootuspärane.

**V2b: Kooli eesmärkide saavutamist mõõdetakse peamiselt õpilaste akadeemiliste tulemusnäitajate abil.**

Väide leidis kinnitust. Eesti üldhariduskoolide tulemusnäitajad, mille alusel nad oma sooritust hindavad, on õpilaste akadeemilise tulemuslikkuse kesksed. Avatud küsimuste vastustest selgus, et kolm kõige populaarsemat tulemusnäitajat, mida mõõdetakse, on seotud õpilaste akadeemilise tulemuslikkusega. Eelkõige toodi välja jooksvad hinded (286 mainimist), järgmises õppeastmes jätkavate õpilaste protsent (257 mainimist) ning riiklikud eksamitulemused (246 mainimist). See tähendab, et kooli sooritust hinnatakse heaks, kui õpilased saavutavad kõrgeid tulemusi riiklikel eksamitel ning nende hinded on head. Neid

kolme kõige sagedamat kooli tulemusnäitajat on nimetanud võtmetulemusteks ka Haridus- ja Teadusministeerium ning seetõttu on need välja toodud ka välishindamise kriteeriumidena. Kahjuks on nimetatud näitajad seotud kooli eesmärkidega vaid osaliselt ning Eesti üldhariduskoolidel puudub ühtne arusaam kooli eesmärkidest ja tulemuslikkusest – ka kooli tulemusnäitajate eelistused varieerusid suurel määral.

Huvitava asjaoluna saab välja tuua, et kõikide eelduste kohaselt peaks õpetajate töösoorituse hindamise ja tulemustasustamise näitajad olema valitud selliselt, et saavutada õpilaste kõrgeid akadeemilisi tulemusi. Üllatuslikult selgub, et nii õpetajate töösoorituse hindamise kui ka tulemustasustamise näitajad on aga valitud märksa laiemalt, hõlmates ka kooli jätkusuutlikkust, õpilaste üldoskusi ning kooliväliseid ja -siseseid suhteid. Olenemata sellest, et kõige populaarsemateks kooli tulemusnäitajateks olid õpilaste akadeemilise tulemuslikkusega seonduv, ei olnud need näitajad kümne kõige olulisema õpetaja töösoorituse hindamise näitaja hulgas. Veelgi enam, kaks kõige sagedamini kasutatavat õpetaja töösoorituse hindamise näitajat, osalemine kooli juhtimises (92%) ja koostöö lapsevanematega (90,3%), on rohkem seotud õpetaja avatuse ja tööga kooli jätkusuutlikkuse tagamisel.

Õpetajate töösoorituse hindamiskriteeriumide erinevuse põhjus kooli tulemusnäitajatest võib olla ka poliitilise taustaga. Nimelt muutus Eesti koolides alates 2010. aastast sisehindamine kohustuslikuks. Haridus- ja Teadusministeerium pakkus koolidele üleminekuks palju abi- ja õppematerjale, samuti nõustamisteenust. Sellest tulenevalt on õpetajate töösoorituse hindamise aluseks olevad hindamiskriteeriumid enamasti hiljem välja töötatud võrreldes kooli tulemusnäitajatega. Tulemustasustamise näitajate valikul on olulisim, et need oleksid mõõdetavad ning et õpetajal oleks võimalik oma tegevusega neid mõjutada. Töötasustamise aluseks olevad näitajad on võrreldes töösoorituse hindamise kriteeriumidega enam kooskõlas kooli tulemusnäitajatega. Näiteks on välja toodud, et õpilaste akadeemiline tulemuslikkus (nii jooksvad akadeemilised tulemused kui ka eksamitulemused) on kõige populaarsem õpetaja tasustamise aluseks olev näitaja. Autori hinnangul on õpilaste akadeemilise tulemuslikkuse alusel individuaalsete tasude maksmine subjektiivne ning isegi ebaõiglane, kuna õpilaste õpitulemusi mõjutavad oluliselt ka tema sotsiaaldemograafiline taust, eakaaslased ning vanemad, aga ka mitme erineva õpetaja tööpanused. Just viimase tõttu ongi soovitatav õpilaste akadeemiliste saavutuste eest pakkuda gruppidele suunatud tulemustasustamist. Kokkuvõttes tuleks koolidel oma tulemusnäitajad kriitilise pilguga üle vaadata ning viia need vastavusse töösoorituse hindamise ning tulemustasustamisega.

## **V2c: Õpetajate eelistused õpetajate töösoorituse hindamiskriteeriumide valikul erinevad koolijuhtide eelistustest.**

Väide leidis kinnitust. Koolijuhtide ning õpetajate arvamused õpetajate töösoorituse hindamiskriteeriumide otstarbekusest erinesid. Õpetajad tähtsustavad töösoorituse hindamisel õpilaste tulemusi olümpiaadidel, näitustel ja võistlustel ning tööd klassivälise tegevuse organiseerimisel, mis ei ole aga koolijuhtide



eelistuste esikümnes. Koolijuhtide eelistused on enam seotud kooli juhtimist puudutavate kriteeriumidega (nt koostöö lapsevanematega ning nooremate õpetajate juhendamine). Mann-Whitney U-testi tulemused näitavad, et õpetajatel on statistiliselt olulisemalt kõrgemad arvamused vaid ühe hindamiskriteeriumi suhtes – õpetatavate õpilaste arv. Õpetajad väärtustavad töösoorituse hindamiskriteeriumidena kõrgemalt ka õpetaja nädalast töökoormust, kuid õpetajate arvamused sellele hindamiskriteeriumile ei ole statistiliselt oluliselt kõrgemad koolijuhtide arvamustest.

Lisaks viitasid juhtumiuuringute tulemused, et õpetajate eelistused töösoorituse hindamiskriteeriumide valikul on seotud otseselt nende individuaalse tööga klassiruumis. Näiteks väärtustati Eesti üldhariduskoolides õpetajate töösoorituse hindamisel õpetajate nädalast töökoormust, õpetatavate õpilaste arvu, õpetajate esinemist klassiruumis, tagasiside andmist õpilastele, suhtlemist õpilastega, tööd õpilaste järeleaitamisel ning õpilaste akadeemilisi tulemusi. Osalemist kooli juhtimisel pidasid õpetajad oma töösoorituse hindamiskriteeriumide hulgas aga mõnevõrra vähemoluliseks.

### **V3a: Õpetajate arvamused õpetajate töösoorituse hindamisest on positiivselt seotud nende arvamustega tulemustasustamisest.**

Väide leidis osaliselt kinnitust. Kuna negatiivsemad arvamused õpetajate töösoorituse juhtimisest tulenesid suuresti rahulolematusest õpetajate töösoorituse hindamisega (*Wilcoxon Signed Rank Sum* testi tulemused), oli oluline kindlaks määrata, kas arvamused õpetajate töösoorituse hindamisest mõjutavad ka arvamus nende tulemustasustamisest. Korrelatsioonianalüüsi tulemusel saab väita, et väide leidis osaliselt kinnitust, sest seosed olid enamasti väga nõrgad või keskmise tugevusega (korrelatsioonikordajad varieerusid õpetajate puhul vahemikus 0,05–0,13 ning koolijuhtide korral vahemikus 0,17–0,26). See tähendab, et positiivsemad arvamused õpetajate töösoorituse hindamisest võivad, kuid ei pruugi mõjutada arvamus nende tulemustasustamisest. Sellest olenemata on õpetajate tulemustasustamise süsteemi kujundamisel oluline keskenduda esmalt õiglase ja aktsepteeritud õpetajate töösoorituse hindamissüsteemi väljatöötamisele või arendamisele. Seda tuleb aga teha koostöös õpetajate ja vajadusel ka teiste kooli sihtgruppidega. Juhtumiuuringutes rõhutati tulemustasustamise mitterakendamise ühe põhjusena sobivate ja usaldusväärsete tulemustasustamise kriteeriumide puudumist.

### **V3b: *Strateegiline juhtimine, ressursijuhtimine ja organisatsioonikultuur on positiivselt seotud pedagoogide arvamustega tulemustasustamise rakendamisest nende koolides.***

Väide leidis kinnitust. Korrelatsioonanalüüs viitas statistiliselt olulistele ning positiivsetele seostele kooli juhtimise aspektide ning pedagoogide arvamuste vahel koolides rakendatavast tulemustasustamisest. Seosed kooli strateegilise juhtimise ja pedagoogide arvamuste vahel koolides rakendatavast tulemustasustamise kohta olid nõrgad kuni võrdlemisi tugevad (0,07–0,35). Võrdlemisi tugevat mõju pedagoogide arvamustele tulemustasustamise rakendamisest

avaldasid eelkõige koolide strateegiliste muudatuste elluviimine tuginedes varasema tegevuste analüüsile (korrelatsioonikordaja 0,32) ning õpetajate kaasamine tegevusplaanide väljatöötamise (korrelatsioonikordaja väärtus 0,35). Kooli ressursijuhtimise ja pedagoogide arvamuste vahelised seosed tulemustasustamise rakendamises koolides varieerusid nõrgast kuni võrdlemisi tugevani (korrelatsioonikordajad 0,05–0,39). Võrdlemisi tugevat mõju pedagoogide arvamustele nende koolides rakendatavast tulemustasustamisest avaldasid pedagoogide arvamused kooli ressursside kasutusest vastavalt kooli arengukavale ja eelarvele (korrelatsioonikordaja 0,3), ressursikasutuse efektiivsusest (korrelatsioonikordaja 0,39) ning inimressursi süsteemsest analüüsist (korrelatsioonikordaja 0,32). Seosed kooli organisatsioonikultuuri ning pedagoogide arvamuste vahel koolides rakendatavast tulemustasustamisest olid samuti nõrgad kuni võrdlemisi tugevad (korrelatsioonikordajad väärtustes 0,05–0,39). Organisatsioonikultuuri aspektidest lähtuvalt mängisid pedagoogide arvamuste kujundamisel olulist rolli nende arvamused õpetajate kaasamisest kooli arendusse ja juhtimisse (korrelatsioonikordaja 0,39), koolijuhiga suhtlemise lihtsusest (korrelatsioonikordaja 0,37), koolijuhiga eetilise käitumisest (korrelatsioonikordaja 0,35) ja õpetajate saavutuste väärtustamisest kooli juhtkonna tasandil (korrelatsioonikordaja 0,38). Korrelatsioonikordajate varieerumine tulemustasustamist puudutavate uurimisvaidete puhul viitab pedagoogide selge ülevaate puudumisele tulemustasustamisest kui juhtimisinstrumendist. Juhtumiuuringute tulemused rõhutasid organisatsioonikultuuri ning ressursijuhtimise olulisust tulemustasustamise väljatöötamisel ja rakendamisel.

Lisaanalüüsina tehtud regressioonanalüüsi tulemused viitasid statistiliselt olulistele positiivsetele seostele vaid kooli strateegilise juhtimise ja organisatsioonikultuuri ning pedagoogide arvamuste vahel tulemustasustamise motiveerivast mõjust. Mingit tõestust kooli ressursijuhtimise ja pedagoogide arvamuste vahel tulemustasustamise motiveerivast mõjust ei leitud. Statistiliselt olulised tulemused organisatsioonikultuuri mõjust rõhutavad koolijuhtide ja õpetajate omavaheliste suhete olulisust uute juhtimisvahendite rakendamisel. Lisaks organisatsioonikultuurile näitavad tulemused ka planeerimise ja töötajate kaasamise olulisust sellesse.

#### **V4a: Tulemustasustamist rakendavatel koolidel on kõrgemad tulemused näitajate osas, mis mõõdavad õpilaste akadeemilist tulemuslikkust.**

Väide leidis osaliselt kinnitust. Võrreldes tulemustasustamist mitterakendavaid koole koolidega, kes seda praktiseerivad (*Independent Samples t-testi* tulemused) selgub, et viimastel on statistiliselt oluliselt kõrgemad tulemusnäitajad põhikooli lõpueksamite, järgmises õppeastmes õppimist jätkavate õpilaste arvu, riiklike eksamitulemuste ja ülikoolis tasuta õpinguid jätkavate õpilaste osakaalu osas. Korrelatsioonianalüüs viitab samuti statistiliselt olulistele seostele õpetajate tulemustasustamise ja kooli tulemusnäitajate vahel. Need seosed ei ole aga kõige tugevamad (korrelatsioonikordaja varieerub vahemikus 0,06–0,25). Kõige tugevam korrelatsioon on õpetajate tulemustasus-

tamise ja riiklike eksamitulemuste vahel (0,24) ning tulemistasustamise ja ülikoolis tasuta õppekohal jätkavate õpilaste arvu vahel (0,25). Nende seoste olemasolust andis kinnitust ka graafiline analüüs, mille kohaselt on nendel koolidel, kes tasustavad õpetajaid töötulemustest lähtuvalt, keskmised tulemused riiklikel eksamitel üle 70 punkti ning ülikoolis jätkavad tasuta õppekohal 60–70 protsenti keskkooli lõpetanud õpilastest. Vaadeldavad seosed võivad tuleneda ka nimetatud koolide parematest rahalistest võimalustest õpetajate töötasustamisel, sh tulemustasustamisel.

#### **V4b: Tulemustasustamist rakendavatel koolidel on enam nõutava kvalifikatsiooniga õpetajaid.**

Väide leidis osaliselt kinnitust. Võrreldes tulemustasustamist rakendavaid koole nende koolidega, kes seda ei tee, selgub, et õpetajaid tulemuste järgi tasustavatel koolidel on suhteliselt rohkem (kõrgem osakaal) nõutava kvalifikatsiooniga õpetajaid (*Independent Samples t-testi tulemused*). Seose statistilisest olulisusest olenemata on korrelatsioonikordaja väärtus siiski suhteliselt nõrk. Põhikoolide puhul oli korrelatsioonikordaja väärtuseks 0,1 ja keskkoolide puhul 0,15.

#### **V5a: Õpiprotsess ja õpikeskkond on positiivselt seotud pedagoogide arvamustega tulemustasustamise rakendamise nende koolides.**

Väide leidis kinnitust, kuna korrelatsioonianalüüs viitas statistiliselt olulistele positiivsetele seostele õpetajate tegevuse karakteristikute ja pedagoogide arvamuste vahel nende koolides rakendatavast tulemustasustamisest. Nõrgad kuni keskmise tugevusega seosed olid õpiprotsessi ja pedagoogide arvamuste vahel tulemustasustamise rakendamise nende koolides (korrelatsioonikordajad 0,09–0,29). Suuremat mõju pedagoogide arvamustele tulemustasustamise rakendamise nende koolides avaldavad pedagoogide arvamused õpilaste akadeemise tulemuslikkuse süsteemsest analüüsist koolis (korrelatsioonikordaja 0,29) ja arvamustest õpilaste osalemise toetamisest olümpiaadidel ning võistlustel (korrelatsioonikordaja väärtus 0,28).

Õpikeskkonna ja pedagoogide arvamuste vahel olid nõrgad kuni võrdlemisi tugevad seosed (korrelatsioonikordajate väärtused 0,08–0,31). Võrdlemisi tugevalt mõjutab pedagoogide arvamusi tulemustasustamise rakendamise nende koolides pedagoogide arvamus sellest, kas koolis julgustatakse õpilasi saavutama parimad tulemusi (korrelatsioonikordaja 0,31).

Lisaks leiti regressioonianalüüsi abil statistiliselt olulised positiivsed seosed vaid õpiprotsessi ja pedagoogide arvamuste vahel tulemustasustamise motiveerivast mõjust. Õpikeskkonna puhul statistiliselt olulist seost tulemustasustamisega ei tuvastatud. Regressioonianalüüsi tulemused viitasid ka statistiliselt olulistele seostele õpiprotsessi ja pedagoogide arvamuste vahel tulemustasustamise mõjust kooli eesmärkide täitmisel. Statistiliselt olulist seost õpikeskkonna ja pedagoogide arvamuste vahel tulemustasustamise mõjust kooli eesmärkide täitmisele ei leitud.

Tulemuste põhjal saab välja tuua, et pedagoogide arvamusi tulemustasustamisest mõjutab statistiliselt oluliselt õpiprotsessi kvaliteet. Leitud tulemus on ootuspärane, kuna õpetajate tulemustasustamine on sageli otseselt seotud õpetaja vahetu töösooritusega klassiruumis. Õpetaja töösooritusega klassiruumis on aga kõige otsesemalt seotud just õpiprotsessi näitajad. Seega väljendavad tulemused ühelt poolt pedagoogide arvamust, et tulemustasustamine peaks olema täielikult seotud vaid õpetaja otseselt mõõdetava panusega. Teisalt aga väljendavad tulemused pedagoogide usku, et õpiprotsessi arendamine viib ka kooli tulemuste tõusule. Õpikeskkonna väiksemat mõju võib seletada asjaoluga, et õpetajatele ei meeldi, kui nende tööd hinnatakse tunni-vaatlustega. Õpikeskkonna kujundamisele hinnangu andmisel kasutatakse sageli just tunnivaatlust, mille käigus annab õpetaja tööle hinnangu väljastpoolt kooli saadetud inspektor või ametnik. Seda hindamismeetodit peetakse aga juhuslikuks, ebaefektiivseks ning ebausaldusväärseks, kuna hindaja ei tunne kooli konteksti ning iseärasusi, millega peaks hindamisel arvestama. Sarnast õpetajate poolset vastumeelsust töösoorituse hindamisele on täheldatud ka Inglismaa koolides (DfEE, 2000).

**V5b: Õpetajate eelistused tulemustasustamise kriteeriumide valikul lähtuvad sellest, et need oleksid võimalikult otseselt seotud nende individuaalse tööga klassiruumis.**

Väide leidis kinnitust. Uuring näitas aga, et kuigi koolijuhtide ja õpetajate eelistused tulemustasustamise kriteeriumide suhtes küll erinesid, ei olnud erinevused väga suured. Nii koolijuhtide kui ka õpetajate nägemuse järgi on kõige olulisem tasustada õpetajaid vastavalt nende osalemisele kooli arendamises ning ka õppemetoodilise töö eest. Õpetajatel on statistiliselt oluliselt kõrgemad arvamused kolme tulemustasustamise kriteeriumi sobivuse osas – keskmine õpperühma suurus, õpetaja tegelik nädalakoormus ning erivajadustega õpilaste arv klassis. Koolijuhid väärtustavad aga õpetajatest enam õpetajate osalemist kooli juhtimises ja arendamises, õpilaste tulemusi olümpiaadidel, näitustel ja võistlustel ning õpetaja tööd õpilaste järeleaitamisel. Koolijuhtide kõrged arvamused õpetajate osalemisest kooli juhtimises ja arendamises on huvitav tulemus, kuna empiiriline uuring näitas õpetajate vähest kaasamist õpetaja töösoorituse hindamissüsteemi väljakujundamisse. Tulemus võib aga viidata ka koolijuhtide puudulikele juhtimis- ja eestvedamisoskustele.

Juhtumiuuringute tulemused andsid lisatõestust, et õpetajate eelistused nende enda tulemustasustamise kriteeriumide valikul on seotud individuaalse tööga klassiruumis. Eelkõige väärtustati õpetajate tulemustasustamisel õpilaste tulemusi olümpiaadidel, akadeemilisi tulemusi ning õpetajate tööd klassijuhatamisel.

## Töö teoreetiline panus, piirangud ja soovitused tulevasteks uuringuteks

Doktoritöö annab teoreetilise panuse õpetajate töösoorituse juhtimise vallas. Töös esitletakse kooli tulemuslikkuse kujunemise raamistikku, milleks on välja töötatud kooli tulemuslikkuse karakteristikute mudel. Selle näol on suuresti tegemist õpetaja efektiivsuse mudeli edasiarendusega (Department of Education, 2000), millel põhineb Inglismaa õpetajate töösoorituse hindamis- ja tasustamispoliitika. Kooli tulemuste karakteristikute mudel koosneb nii kooli juhtimise (kooli strateegiline ja ressursijuhtimine ning organisatsioonikultuur) kui ka õpetajate tegevuse (õpiprotsess, õpikeskkond ja õpetaja personaalsed tunnused) aspektidest (vt joonis 3, lk 280).

Doktoritöö raames tehtud uuring andis väärtuslikku informatsiooni õpetajate töösoorituse juhtimisega kaasnevate muudatustega tegelemiseks. Uuringust saadi kinnitust, et kooli tõhus juhtimine tagab talle edu pühendunud ja positiivselt meelestatud õpetajaskonna kujundamise näol. Positiivne meelestatus õpetajate töösoorituse juhtimise suhtes muudaks aga uute juhtimispraktikate juurutamise Eesti üldhariduskoolides oluliselt kergemaks ja kiiremaks. Kokkuvõttes tõestas uuring empiirilisel, kuidas kooli juhtimine mõjutab pedagoogide arvamusi. Seega tuleks enam tähtsustada kooli juhtimise rolli ning soodustada õpetajate kaasamist juhtimisse. Kuna muudatuste juhtimist käsitlevad autorid (Aladwani, 2001, Johnson *et al.*, 2006) rõhutavad positiivsete suhtumiste (arvamuste) olulisust muudatuste elluviimisel, saab järeldada, et kooli pädev strateegiline juhtimine, ressursijuhtimine ning organisatsioonikultuur on õpetajate töösoorituse hindamise ja tulemustasustamise süsteemi väljakujundamisel äärmiselt olulised. Nimelt mõjutavad positiivsed arvamused kooli juhtimisest ka pedagoogide arvamusi õpetajate töösoorituse hindamisest ja tulemustasustamisest positiivsemaks. Uued juhtimispraktikad, sh õpetajate töösoorituse hindamine ja tulemustasustamine aitavad pädeva rakendamise korral olla koolil tulemuslikum.

Uuring tähtsustas kooli strateegilise juhtimise rolli, kuna see annab vajaliku raamistiku ja sisendi kooli eesmärkide sõnastamiseks ning seega õpetajate töösoorituse hindamise ja tulemustasustamise süsteemi kujundamiseks. Töösoorituse juhtimise kontekstis rõhutavad need tulemused planeerimise olulisust koolides. Planeerimine on oluline lühi- ja pikaajaliste kooli eesmärkide seadmiseks, võttes arvesse nii koolisiseseid kui ka -väliseid muutusi. Planeerimine on aluseks kooli tulemusnäitajate määratlemisel ning kooli töösoorituse juhtimine peab tuginema selle käigus välja töötatud tulemusnäitajatele. Kui kooli tulemusnäitajad ei ühti õpetajate töösoorituse hindamise ja tulemustasustamise aluseks olevate kriteeriumidega, siis ei pruugi see tõsta kooli tulemuslikkust, kuna õpetajad ei ole motiveeritud kooli strateegiliste eesmärkide täitmiseks. Selle asemel keskenduvad nad pigem nende kriteeriumide täitmisele, mis on määratletud õpetajate töösoorituse hindamise ja tulemustasustamise süsteemis. Koolidel tuleb tulemuste saavutamisel jälgida kooli tulemusnäitajate täitmist, tutvustada arengukavasid huvigruppidele ning kaasata nende ettepanekuid ja

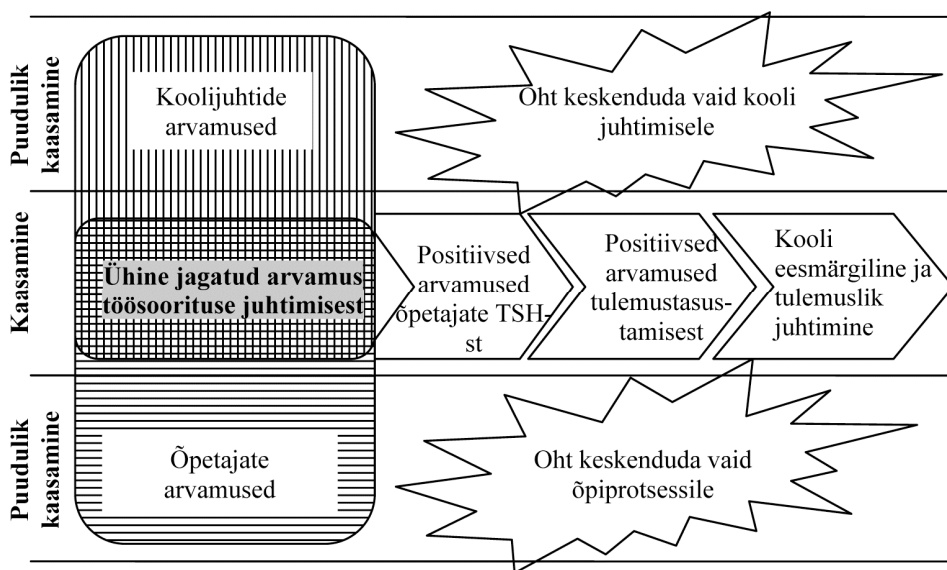
arvamusi. Õpetajate kooli juhtimisse kaasamine on kooli strateegilise juhtimise kontekstis tähtis, kuna võimaldab töötajatel mõista nende rolli näiteks kooli arengukava täitmisel. Kui õpetajad saavad aru, millised on nende tööle esitatud ootused ja mõistavad seeläbi ka nendele püstitatud eesmärgid, on nad vähem vastumeelsed ka õpetajate töösoorituse hindamise ja tulemustasustamise suhtes.

Kooli ressursijuhtimine on samuti oluline, kuna see on seotud kooli strateegiliste eesmärkide täitmiseks vajalike materiaalsete ja immateriaalsete ressursside jaotuse ja kasutamisega. Lisaks sellele annab õpetajate töösoorituse hindamine väärtuslikku informatsiooni õpetajaskonna kujundamise ja arendamise vajadustest. Kuna koolide detsentraliseerimise käigus on koolijuhtidele antud suur autonoomsus kooli eelarve juhtimisel, on väga oluline, et nad analüüsiksid süstemaatiliselt kooli ressursse ja nende kasutamist. Tõhus ressursijuhtimine võimaldab koolidel saada ülevaade oma ressursikasutusest, mis on vajalik ka õpetajate tulemustasustamise rakendamisel. Koolidel pole piisavalt ka rahalisi vahendeid õpetajate tulemustasustamiseks. Samas võimaldab õpetajate tulemustasustamine rahalisi vahendeid otstarbekamalt kasutada ning mitte jagada seda ühtlaselt laiali, vaid diferentseerida töötasusid vastavalt töötulemustele. Seega võib öelda, mida paremal tasemel on kooli ressursijuhtimine, seda paremini tasakaalus on kooli tulud ja kulud ning seda enam leitakse võimalusi ka õpetajate tulemustasustamiseks.

Kooli arengukavade planeerimine ja ressursijuhtimine ei suuda aga üksinda veel tagada kooli eesmärkide täitmist. Doktoritöös tõestatakse, et ka nn inimfaktor ja organisatsioonikultuur on oluline, kuna see loob õpetajate töösoorituse juhtimiseks vajaliku toetava õhkkonna. Organisatsioonikultuuris on oluline tulemustele orienteeritud ja toetava töökeskkonna loomine, mis saavutatakse tänu õpetajate saavutuste väärtustamisele, kommunikatsiooni arendamisele ning eetiliste normide jagamisele. Kui kooli juhtkond järgib eetilisi norme, väärtustab õpetajate saavutusi, tegeleb organisatsioonisisese kommunikatsiooniga ja kaasab õpetajaid kooli juhtimisse, siis on õpetajad palju positiivsemalt meelestatud kooli juhtimise ja tegevuse suhtes ning on enam motiveeritud ka kooli eesmärgid täitma. Võimalus oma nägemusi ja ootusi ellu viia tagab ühtlasi õpetajate positiivsed arvamused uutest juhtimisvahenditest, nagu näiteks õpetajate töösoorituse hindamine ja tulemustasustamine.

Uuringu tulemused näitavad õpetajate ja koolijuhtide vahelise koostöö olulisust uute juhtimispraktikate juurutamisel. Näiteks tõi Mattila ja Aaltio (2006) uuring välja töötajate kaasamise olulisuse strateegiliste otsuste tegemisel. Töötajate pühendumist on võimalik saavutada nende kaasamise kaudu juhtimisse. Uuring näitas, et õpetajatel, kes olid töösoorituse hindamise süsteemi väljatöötamisse kaasatud, olid positiivsemad arvamused nende koolides rakendatavast õpetajate töösoorituse hindamissüsteemist. Positiivsed arvamused töösoorituse hindamisest kujundavad aga ka positiivse nägemuse koolides rakendatavast õpetajate tulemustasustamisest, mistõttu on õpetajate kaasamisel juhtimisse märgiline tähtsus. Kui õpetajad on kaasatud, siis nad mõistavad, millised on neile pandud ootused ning tunnevad, et nende tööpanust organisatsioonis ka väärtustatakse.

Sünteesides eespool mainitud tulemused, saab välja tuua olulise raamistiku kooli eesmärgiliseks ja tulemuslikuks juhtimiseks (vt joonis 7). Seega on kooli eesmärkide saavutamisel olulised nii koolijuhtide kui ka õpetajate arvamused. Taoline lähenemine võimaldab saavutada sünergia kooli juhtimise ja õpetajate tegevuse vahel. Samuti tajutakse üheskoos väljatöötatud õpetajate töösoorituse hindamissüsteemi õiglasena ning eesmärke toetavana. Kui aga õpetajate töösoorituse hindamise süsteemi peetakse õiglaseks, on ka arvamused õpetajate tulemustasustamisest soosivamad. Tulemustasustamise üheks levinud mitterakendamise põhjuseks on just kartus, et ei suudeta luua piisavalt usaldusväärset ja objektiivset õpetajate töösoorituse hindamise süsteemi. Koolides, kus rakendatakse tulemustasustamist, tuleks üle vaadata õpetajate töösoorituse hindamise süsteem ning kõrvaldada õpetajate rahulolematust põhjustavad võimalikud puudujäägid.



**Joonis 7.** Õpetajate koolijuhtimisse kaasamise ning õpetajate töösoorituse hindamise ja tulemustasustamise vahelised seosed.

Märkus: TSH – töösoorituse hindamine.

Allikas: autori koostatud tuginedes uurimisevaidete 1a, 1b, 3a ja 3b testimisele.

Eespool toodud tulemused on sisendiks õpetajate töösoorituse juhtimisega kaasnevate muudatuste elluviimiseks Eesti üldhariduskoolides. Nimelt on muudatuste rakendamise keskmes pedagoogide teadlikkuse ja positiivsete arvamuste ning juurutamise kavatsuse kujundamine kooli juhtimise, sh õpetajate töösoorituse juhtimise suhtes. See tagaks muudatuse elluviimiseks avatud ning kaasava õhkkonna, millela pole võimalik uut juhtimispraktikat kasutusele võtta, kuna vastuseis muudatustele nivelleerib uutest juhtimispraktikatest saadava kasu.

Doktoritöö panus on õpetajate töösoorituse ja tulemustasustamise hindamiskriteeriumide väljatoomine. Eesti üldhariduskoolides tehtud uuring võimaldas välja tuua koolijuhtide eelistused töösoorituse hindamise kriteeriumide valikul, mis on enam seotud kooli juhtimisega. Õpetajate eelistused on aga pigem seotud nende tööga õpiprotsessi kujundamisel. Uuring peegeldas ka õpikeskkonna kujundamise olulisust, kuna see mängib olulist rolli õpihuvi kujundamisel õpiprotsessis. Õpetajate töösoorituse hindamissüsteem peab tagama kooli tasakaalustatud arengu ja seetõttu kombineerima õpiprotsessi, õpikeskkonna, aga ka kooli juhtimisega seotud kriteeriumid. Lisaks tõestas uuring empiiriliselt, et õpetajate arvates tuleks õpetajate tulemustasustamine siduda võimalikult otsest õpetajate individuaalse tööpanusega. Sellest olenemata arvab autor, et tulemustasustamist ei ole soovitatav vaadata nii kitsalt, vaid see peaks õpetajaid motiveerima ennast arendama ja oma töösooritust parandama nii individuaalselt kui ka kollektiivselt. Seega on tulemustasustamine ka vahend, millega tähtsustada kollektiivset panust kooli tulemuste tõstmisel ning innustada õpetajaid osalema kooli arendamises ja juhtimises. Kuna doktoritöö uuring viitas, et lisaks õpetajate tegevusele mängib kooli juhtimine olulist rolli õpetajate arvamuste kujundamisel, tuleb õpetajate osalemist kooli juhtimisel väärtustada ja tasustada. Uuring tõi ka välja, et akadeemilist tulemuslikkust ei tohiks liigselt tähtsustada õpetajatele individuaalse tasu maksmisel.

Uuring näitas pedagoogide positiivseid arvamusi õpetajate tulemustasustamisest. Siiski jääb võimalus, et positiivsed arvamused ei tulene niivõrd uskumusest, et tulemustasustamine on parim viis õpetajate tasustamiseks, kuivõrd üldistest ootustest õpetajate palga tõusule. Tegelik palgatase ennustab hästi töötaja rahulolu oma töö eest saadava tasuga. Õpetajate palk on Eesti haridussektoris küllaltki tagasihoidlik ning õpetajate palga küsimus on olnud aktuaalne juba aastaid. Tänapäevane haridussüsteem toetub ületöötanud ja alamakstud õpetajatele, mis ei ole aga soodne pinnas uue põlvkonna harimiseks. Lahenduseks pole aga üldine õpetajate palga tõus, vaid pigem õpetajate palga diferentseerimine nende töötulemustest lähtuvalt. Seda tuleks aga teha vastavalt õpetajate töösooritusele kooli eesmärkide saavutamisel. Seetõttu soovitab autor rakendada senisest enam õpetajate tulemustasustamist, mis võimaldab õpetajate töötasu siduda nende võimekusega tõsta kooli ja õpilaste tulemusi. Samas ei tohi unustada, et kooli tulemuslikkuse saavutamiseks tuleks leida sünergia kooli juhtimise ja õpiprotsessi ning -keskkonna vahel, mida tuleks samuti silmas pidada õpetajate tulemustasustamise väljatöötamisel.

Olenemata pedagoogide positiivsetest arvamustest õpetajate tulemustasustamisele, on sellel juhtimisvahendil ka mitmeid puudusi, mis võivad elimineerida selle rakendamise saadava kasu. Kõige kriitilisemad probleemid tõstatuvad õiglase ja aktsepteeritud õpetajate tulemustasustamise süsteemi kujundamisel, kusjuures kõige keerulisem on valida just tulemustasustamise kriteeriume, mis võimaldaksid motiveerivat tasu kõikidele õpetajatele. Lisaks tuleb jälgida, et õpetajate tulemustasustamisest tingitud õpetajatevaheline konkurents ei ohustaks kooli organisatsioonikultuuri ning ei devalveeriks meeskonnatööd. Erinevate õppeainete ja nendes õpitu integreerimiseks on



õpetajatevaheline koostöö väga oluline. Lõpetuseks tuleb igal koolil välja töötada just selle kooli vajadustele, oludele ja prioriteetidele vastav õpetajate töösoorituse hindamise ja tulemustasustamissüsteem, mis aitaks motiveerida õpetajaid ja saavutada kõrgemaid tulemusi. Samas tuleb meeles pidada, et õpetajate tulemustasustamine on hea vahend õpetajate palga diferentseerimiseks, mis on omakorda heaks alternatiiviks praegusele õpetajate töökoormusele ja ametijärgule keskenduvale palgasüsteemile.

Doktoritöö on aktuaalne, sest õpetajate tulemustasustamist ei ole Eestis haridussektori kontekstis veel süsteemselt uuritud. Väheste uurimispraktika tõttu selles valdkonnas võib välja tuua ka mitmed piirangud. Kuna väljatöötatud ankeeti rakendati esmakordselt, ei ole autoril võimalik kasutada aegridu, sealjuures võrrelda ja hinnata aastate jooksul toimunud muutusi. Võrreldavate andmete puudumine mõjutab otseselt uuringutulemusi õpetajate tulemustasustamise mõjust kooli tulemustele. Saadud andmed võimaldavad vaid võrrelda, kas õpetajate tulemustasustamist rakendavatel koolidel on kõrgemad tulemusnäitajad või mitte. Selleks, et selgitada välja õpetajate tulemustasustamise mõju kooli tulemustele, on vaja võrrelda kooli tulemusnäitajaid enne õpetajate tulemustasustamisele üleminekut olukorraga, mil õpetajaid tulemustasustakse. Samuti oleks vajalik jälgida tulemusnäitajate dünaamikat õpetajate tulemustasustamise süsteemi väljakujundamise protsessis. Seetõttu ei saa doktoritöös kindlalt järeldada, et õpetajate tulemustasustamise rakendamine koolides on mõjunud kooli tulemusnäitajatele positiivselt või rakendavad seda suuremate linnade koolid, kellel on selleks paremad rahalised võimalused või kellel on lihtsam tööle meelitada häid õpetajaid ja võimalus valida võimekamaid õpilasi.

Uuringu tulemusi võivad mõjutada ka pedagoogide vähesed teadmised töösoorituse hindamise ja tulemustasustamise olemusest. Seetõttu võivad arvamused tulemustasustamisest olla oletavad, kuna pedagoogid pole sageli seda praktiliselt kogenud. Kuigi õpetajate töösoorituse hindamise ja tulemustasustamise ankeedi küsimuste ploki ees selgitati tulemustasustamise sisu, võis see jääda osadele vastajatele ebaselgeks.

Tuginedes väljatoodud puudustele ja piirangutele, oleks vaja uuringut korrata ja edasi arendada. Aegride kogumine võimaldab hiljem analüüsida tulemustasustamise rakendamise ja kooli tulemusnäitajate vahelisi põhjuslikke seoseid. Põhjalikke ja kindlmaid hinnanguid õpetajate tulemustasustamise mõjust kooli tulemusnäitajatele on võimalik anda kordusuuringute järel. Ka kvalitatiivsete kordusuuringute tegemine võimaldaks koguda väärtuslikku informatsiooni õpetajate töösoorituse juhtimise (sh töösoorituse hindamise ja tulemustasustamise) ning kooli tulemusnäitajate vaheliste seoste tuvastamiseks Eesti üldhariduskoolides. See võimaldaks ka täiendada kooli tulemuslikkuse karakteristikute mudelit ning koguda enam andmeid erinevate mudeli komponentide kohta – õpetajate personaalsed tunnused, õpiprotsess, õpikeskkond, regiooni ja kooli omapära ning organisatsioonikultuur. Kindlasti tuleks tulevastel uuringutel enam analüüsida ka kooli väliskeskkonda, mis etendab kooli juhtimisel ja tulemuslikkuses suurt rolli.



## CURRICULUM VITAE

**Name:** Reelika Irs  
**Nationality:** Estonian  
**Date and place of birth:** 12 October 1983, Kose municipality  
**Address:** Aia 4-16, 75102 Kose-Uuemõisa  
**Telephone:** 5342 6626  
**E-mail:** reelika3@yahoo.com, reelika.irs@ut.ee

### Education

2007 – University of Tartu, PhD student.  
2005 – 2007 University of Tartu. Master of Arts in Social Sciences (Economics and Business Administration), *cum laude*.  
2002 – 2005 University of Tartu. Bachelor of Arts (Economics and Business Administration). Minor speciality Public Relations.  
1995 – 2002 Kose Secondary School.

Foreign Languages: English, Russian.

### Employment

2010 – Estonian Consumer Protection Board, the Head of Consumer Environment Development Service.  
2009 – 2010 Tartu City Government, the Specialist of Marketing and Tourism Service.  
2007 Foundation Tartu County Tourism, Marketing Specialist.  
2005 – 2006 Foundation Tartu County Tourism, Information Officer.  
2005 Office of the President of Estonia, the Trainee of the Public Relations Service.

### Academic work

#### Projects:

2008 – „Performance and analysis of its influencing drivers in general educational schools.“ (Duration of the project: 1 September 2008 – 31 August 2011).

#### Reviewing:

2009 – Reviewer of the articles submitted to *Baltic Journal of Management* (Emerald Publishing Ltd).  
2010 Reviewer of the article of Springer Compendium "Innovation Systems in Small Catching-Up Economies" (Springer Book

- Series "Innovation, Technology and Knowledge Management").
- 2009 Reviewer of the conference articles for IV International Conference on Management Theory and Practice: Synergy in Organisations (3–4 April 2009, Tartu, Estonia).
- 2007 The member of the Science Committee of III International Conference on Management Theory and Practice: Synergy in Organisations (3–4 April 2007, Tartu, Estonia).
- 2007 – 2011 Supervision of student thesis (successfully defended):
- Practice (3 students)
  - BA level (4 students)
  - MA level (1 student)

**Reviewing:**

- BA level (1 student)
- MA level (1 student)

**Teaching:**

- 2008 – 2009 Practice (BA level)
- 2008 – 2009 Leadership and Modern Management Theories (BA level)
- 2007 – 2009 Human Resource Management (BA level)
- 2007 – 2009 Introduction to Management (BA level)
- 2007 – 2008 Management (BA level).
- 2007 – 2009 Organisational Behaviour and Leadership (BA level)

**Administrative work**

- 2008 – 2009 Member of the Faculty of Economics council.
- 2008 – 2009 The co-ordinator of Business Administration Practice.
- 2007 Member of the organising committee and science committee of the *III International Conference on Management Theory and Practice: Synergy in Organisations* (3–4 April 2007, Tartu, Estonia).

## CURRICULUM VITAE

**Nimi:** Reelika Irs  
**Kodakondsus:** Eesti  
**Sünniaeg ja -koht:** 12. oktoober 1983, Kose vald  
**Address:** Aia 4-16, 75102 Kose-Uuemõisa  
**Telefon:** 5342 6626  
**E-post:** reelika3@yahoo.com, reelika.irs@ut.ee

### Hariduskäik:

2007 – Tartu Ülikool. Doktoriõpe majandusteaduses.  
2005 – 2007 Tartu Ülikool. Sotsiaalteaduse magistri kraad (majandusteadus), *cum laude*.  
2002 – 2005 Tartu Ülikool. Sotsiaalteaduse bakalaureuse kraad (majandusteadus). Kõrvaleriala: suhtekorraldus.  
1995 – 2002 Kose Keskkool (praegune Kose Gümnaasium).  
**Võõrkeeled:** inglise, vene.

### Ametikäik:

2010 – Tarbijakaitseamet, Tarbimiskeskonna arendustalituse juhataja.  
2009 – 2010 Tartu linnavalitsus, avalike suhete osakonna maine- ja turismiteenistuse spetsialist.  
2007 SA Tartumaa Turism, turundusspetsialist.  
2005 – 2006 SA Tartumaa Turism, infospetsialist.  
2005 Vabariigi Presidendi Kantselei, avaliku suhete talituse praktikant.

### Teadustöö kirjeldus:

**Projektid:**  
2008 – “Üldhariduskoolide tulemuslikkuse ja seda mõjutavate tegurite analüüs“ prioriteetse suuna „Suurem haldusvõimekus“ meetme „Riigi, kohalike omavalitsuste ja mittetulundusühingute strateegilise juhtimissuutlikkuse tõstmine“ raames (Projekti kestvus 01.09.2008 – 31.08.2011.a).

**Retsenseerimine:**  
2009 – Retsensent artiklitele ajakirjas *Baltic Journal of Management* (Emerald Publishing Ltd).

- 2010 Springeri kogumiku "Innovation Systems in Small Catching-Up Economies" (Springeri raamatute seerias "Innovation, Technology and Knowledge Management") artikli retsensent.
- 2009 4. rahvusvahelise konverentsi „Management Theory and Practice: Synergy in Organisations (toimus 3.–4. aprillil 2009 Tartus) retsensent.
- 2007 3. rahvusvahelise konverentsi „Management Theory and Practice: Synergy in Organisations (toimus 3.–4. aprillil 2007 Tartus) konverentsi teadusnõukogu liige.
- 2007 – 2010 Kaitsmiseni jõudnud üliõpilaste juhendamine:
- Praktika raames (3 üliõpilast)
  - BA tase (4 üliõpilast)
  - MA tase (1 üliõpilane)

**Retsenseerimine:**

- BA tase (1 üliõpilane)
- MA tase (1 üliõpilane)

**Õppetöö:**

- 2008 – 2009 Praktika (BA tase)
- 2008 – 2009 Eestvedamine ja kaasaegsed juhtimisteooriad (BA tase)
- 2007 – 2009 Personalijuhtimine (BA tase)
- 2007 – 2009 Juhtimise alused (BA tase)
- 2007 – 2008 Juhtimine (BA tase).
- 2007 – 2009 Organisatsioonikäitumine ja eestvedamine (BA tase)

**Administratiivne tegevus:**

- 2008 – 2009 Majandusteaduskonna nõukogu liige.
- 2008 – 2009 Majandusteaduskonna praktika ettevõtetmajanduse suuna koordinaator.
- 2007 3. rahvusvahelise konverentsi „Management Theory and Practice: Synergy in Organisations (toimus 3.–4. aprillil Tartus) konverentsi teadusnõukogu liige, korraldustoimkonna liige.

## DISSERTATIONES RERUM OECONOMICARUM UNIVERSITATIS TARTUENSIS

1. **Олев Раю.** Экономическая ответственность и ее использование в хозяйственном механизме. Tartu, 1994. Kaitstud 20.05.1991.
2. **Janno Reiljan.** Majanduslike otsuste analüütiline alus (teooria, metodoloogia, meetodika ja meetodid). Tartu, 1994. Kaitstud 18.06.1991.
3. **Robert W. McGee.** The theory and practice of public finance: some lessons from the USA experience with advice for former socialist countries. Tartu, 1994. Kaitstud 21.06.1994.
4. **Maaja Vadi.** Organisatsioonikultuur ja väärtused ning nende vahelised seosed (Eesti näitel). Tartu, 2000. Kaitstud 08.06.2000.
5. **Raul Eamets.** Reallocation of labour during transition disequilibrium and policy issues: The case of Estonia. Tartu, 2001. Kaitstud 27.06.2001.
6. **Kaia Philips.** The changes in valuation of human capital during the transition process in Estonia. Tartu, 2001. Kaitstud 10.01.2002.
7. **Tõnu Roolaht.** The internationalization of Estonian companies: an exploratory study of relationship aspects. Tartu, 2002. Kaitstud 18.11.2002.
8. **Tiia Vissak.** The internationalization of foreign-owned enterprises in Estonia: An extended network perspective. Tartu, 2003. Kaitstud 18.06.2003.
9. **Anneli Kaasa.** Sissetulekute ebavõrdsuse mõjurite analüüs struktuurse modelleerimise meetodil. Tartu, 2004. Kaitstud 15.09.2004.
10. **Ruth Alas.** Organisational changes during the transition in Estonia: Major influencing behavioural factors. Tartu, 2004. Kaitstud 22.12.2004.
11. **Ele Reiljan.** Reasons for de-internationalization: An analysis of Estonian manufacturing companies. Tartu, 2004. Kaitstud 25.01.2005.
12. **Janek Uiboupin.** Foreign banks in Central and Eastern European markets: their entry and influence on the banking sector, Tartu, 2005. Kaitstud 29.06.2005.
13. **Jaan Masso.** Labour Reallocation in Transition Countries: Efficiency, Restructuring and Institutions, Tartu, 2005. Kaitstud 7.11.2005.
14. **Katrin Männik.** The Impact of the Autonomy on the Performance in a Multinational Corporation's Subsidiary in Transition Countries, Tartu, 2006. Kaitstud 29.03.2006.
15. **Andres Vesilind.** A methodology for earning excess returns in global debt and currency markets with a diversified portfolio of quantitative active investment models, Tartu, 2007. Kaitstud 13.06.2007.
16. **Rebekka Vedina.** The diversity of individual values and its role for organisations in the context of changes, Tartu, 2007. Kaitstud 16.11.2007.
17. **Priit Sander.** Essays on factors influencing financing decisions of companies: risk, corporate control and taxation aspects, Tartu, 2007. Kaitstud 19.12.2007.
18. **Kadri Ukrainski.** Sources of knowledge used in innovation: an example of Estonian wood industries. Tartu, 2008. Kaitstud 22.04.2008.

19. Kristjan-Olari Leping. **Heterogeneity of human capital and its valuation in the labour market.** Tartu, 2008. Kaitstud 14.05.2008.
20. Kadri Männasoo. Essays on financial fragility – evidence from the corporate and banking sectors in Central and Eastern Europe. Tartu, 2008. Kaitstud 26.05.2008.
21. Made Torokoff. Patterns of learning organisation – Estonian experiences. Tartu, 2008. Kaitstud 30.06.2008.
22. **Helena Rozeik.** Changes in ownership structures, their determinants and role in the restructuring of enterprises during transition: evidence from Estonia. Tartu, 2008. Kaitstud 31.10.2008.
23. **Jaanika Meriküll.** Technological change and labour demand. Tartu, 2009. Kaitstud 19.05.2009.
24. **Anne Aidla.** The impact of individual and organisational factors on academic performance in estonian general educational schools. Tartu, 2009. Kaitstud 18.06.2009.
25. **Alexander Gofman.** Experimentation-Based Product Development in Mature Food Categories: Advancing Conjoint Analysis Approach. Tartu, 2009. Kaitstud 21.09.2009.
26. **Anne Reino.** Manifestations of organizational culture based on the example of Estonian organizations. Tartu, 2009. Kaitstud 06.11.2009.
27. **Krista Jaakson.** Management by values: the analysis of influencing aspects and its theoretical and practical implications. Tartu, 2009. Kaitstud 12.11.2009.
28. **Eve Parts.** Social capital, its determinants and effects on economic growth: comparison of the Western European and Central-Eastern European countries. Tartu, 2009. Kaitstud 18.12.2009.
29. **Egle Tafenau.** Welfare effects of regional policy in the constructed capital model. Tartu, 2010. Kaitstud 22.03.2010.
30. **Epp Kallaste.** Employee workplace representation: an analysis of selected determinants. Tartu, 2010. Kaitstud 21.06.2010.
31. **Danel Tuusis.** Interest rate influence on the behavior of economic subjects. Tartu, 2010. Kaitstud 22.10.2010.
32. **Elina Kallas.** Emotional intelligence, organizational culture and their relationship based on the example of Estonian service organizations. Tartu, 2010. Kaitstud 17.11.2010.
33. **Dorel Tamm.** Alignment between the factors of the innovation process and public sector innovation support measures: an analysis of Estonian dairy processors and biotechnology enterprises. Tartu, 2010. Kaitstud 16.12.2010.
34. **Rasmus Kattai.** The links between private sector indebtedness and banking sector vulnerability: An Estonian case study. Tartu, 2010. Kaitstud 17.01.2011.



35. **Kurmet Kivipõld.** Organizational Leadership Capability and its evaluation based on the example of Estonian service organizations. Tartu, 2011. Kaitstud 4.05.2011.
36. **Janno Järve.** Downward Nominal Wage Rigidity in the Estonian Private Sector. Tartu, 2011. Kaitstud 21.06.2011.
37. **Kristina Toming.** The impact of integration with the European Union on the international competitiveness of the food processing industry in Estonia. Tartu, 2011. Kaitstud 21.06.2011.
38. **Andrus Kotri.** Customer experience evoking and management in services. Tartu, 2011. Kaitstud 26.08.2011.
39. **Andres Kuusik.** Segmentation of repeat visitors using passive mobile positioning data: customer loyalty based approach. Kaitstud 31.08.2011.
40. **Tuuli Pärenson.** Social impact evaluation in social enterprises in Estonia: need, readiness and practices. Kaitstud 21.09.2011.
41. **Indrek Saar.** Optimal alcohol taxation in Estonia. Kaitstud 25.11.2011.
42. **Kertu Lääts.** Management accounting change in a dynamic economic environment based on examples from business and public sector organizations. Tartu, 2011. 250 p.

