

University of Warwick institutional repository: <http://go.warwick.ac.uk/wrap>

A Thesis Submitted for the Degree of PhD at the University of Warwick

<http://go.warwick.ac.uk/wrap/2242>

This thesis is made available online and is protected by original copyright.

Please scroll down to view the document itself.

Please refer to the repository record for this item for information to help you to cite it. Our policy information is available from the repository home page.

**Continuing Professional Development
for
Teachers in Thailand**

by

Nuttiya Tantranont

A thesis submitted in partial fulfillment of the requirements for
the degree of
Doctor of Philosophy in Education

University of Warwick, Institute of Education
March 2009

Table of Contents

Contents	Page
Title Page	i
Table of Contents	ii-vi
List of Tables	vii-x
List of Abbreviations	xi-xiii
Acknowledgements	xiv
Declaration	xv
Abstract	xvi
Chapter 1: Introduction to the Study	1-6
1.1 Introduction.....	1
1.2 Rationale for Study.....	2-3
1.3 Overview of the Research Design.....	3-4
1.4 Structure of the Thesis.....	5-6
1.5 Conclusion.....	6
Chapter 2: Teacher Education and Training in Thailand	7-32
2.1 Introduction.....	7
2.2 An Overview of Chiang Mai, Thailand.....	8-10
2.3 Education in Thailand.....	10-14
2.4 The Role of a Teacher.....	14-16
2.5 Teacher Qualifications.....	16-18
2.6 Teacher Training Programs.....	18-20
2.7 The Weakness of Education System.....	20-26
2.8 Teacher Quality.....	26-28

Contents	Page
2.9 Teacher Training and Development.....	28-31
2.10 Conclusion.....	31-32
Chapter 3: Literature Review of CPD.....	33-101
3.1 Introduction.....	33-34
3.2 The Definition of CPD.....	34-37
3.3 The Purpose of CPD.....	38-41
3.4 Debates on CPD.....	42-45
3.5 Provision of CPD.....	45-50
3.6 CPD for Other Professions.....	50-59
3.7 The Types of CPD for Teachers.....	59-70
3.8 The Model of CPD.....	70-74
3.9 The Effectiveness of CPD.....	74-79
3.10 Impact of CPD.....	79-84
3.11 Characteristics of Effective CPD.....	84-88
3.12 Evaluating CPD.....	89-97
3.13 Gender Differences in Views and Preferences of CPD.....	97-99
3.14 Conclusion.....	99-101
Chapter 4: Literature Review of Research Methodology.....	102-122
4.1 Introduction.....	102
4.2 Methodology in Education Research.....	102-104
4.3 Use of Different Methodology.....	104-106
4.4 The Methodological Debate.....	106-108
4.5 The Distinction between Quantitative/Qualitative Research.....	108-110
4.6 Pros and Cons of Quantitative and Qualitative Research.....	111-113

Contents	Page
4.7 Surveys and Interview Techniques.....	113-116
4.8 Reliability and Validity of the Research.....	117-119
4.9 Use of Combined Methods.....	119-122
4.10 Conclusion.....	122
Chapter 5: Research Methodology.....	123-140
5.1 Introduction.....	123
5.2 Pilot Study.....	123-127
5.3 Main Study.....	127-136
5.4 Ethnical Issues.....	136-139
5.5 Conclusions.....	139-140
Chapter 6: Analysis of Quantitative Data.....	141-192
6.1 Introduction.....	141
6.2 Characteristics of Survey Sample.....	141-145
6.3 Times for Undertaken CPD Experiences.....	145-152
6.4 Types of CPD.....	152-158
6.5 The Content of CPD.....	158-162
6.6 The Providers of CPD.....	162-164
6.7 The Resources Available for CPD.....	164-167
6.8 The Ways to Acquire Skills and Knowledge.....	167-170
6.9 The New Knowledge and Skills Used by Teachers.....	171-174
6.10 The Effectiveness of CPD.....	175-179
6.11 The Outcomes Gained as a Result of CPD.....	179-183
6.12 Qualitative Responses to the Open-ended Questions.....	183-191
6.13 Conclusion.....	191-192

Contents	Page
Chapter 7: Analysis of Qualitative Data.....	193-243
7.1 Introduction.....	193
7.2 Interviewing Headteachers.....	193-219
7.3 Interviewing Teachers.....	219-243
7.4 Conclusion.....	243
Chapter 8: Discussion and Recommendation.....	244-280
8.1 Introduction.....	244
8.2 Discussion of findings.....	244-265
8.3 Critical Reflections on the Thesis.....	265-271
8.4 Recommendations.....	271-279
8.5 Conclusions.....	280
Chapter 9: Conclusion, limitations, and Future Studies.....	281-288
9.1 Introduction.....	281
9.2 Summary.....	281-284
9.3 Limitations.....	284-285
9.4 Further Investigations.....	285-286
9.5 Conclusion.....	286-288
References.....	289-300
Appendices.....	301-315
Appendix A: Teacher Survey Questions.....	301-304
Appendix B: Headteacher Interview Questions.....	305-306
Appendix C: Teacher Interview Questions.....	307-308
Appendix D: Cover Letter.....	309
Appendix E: A comparison of the types of CPD participated by male and female teachers (%).....	310

Contents	Page
Appendix F: A comparison of the content of CPD participated by male and female teachers (%).....	310
Appendix G: A comparison of the providers of CPD between male and female teachers (%).....	311
Appendix H: A comparison of the resources available for CPD between male and female teachers (%).....	311
Appendix I: A comparison of the ways in which male and female teachers acquire skills and knowledge (%).....	312
Appendix J: A comparison of the new knowledge and skills used by male and female teachers (%).....	313
Appendix K: A comparison of the effectiveness of CPD reported by male and female teachers (%).....	314
Appendix L: A comparison of the outcomes gained as a result of CPD activities reported by male and female teachers (%).....	315

List of Tables

Tables	Page
Table 2.1: Number of schools in Chiang Mai year 2005.....	9
Table 2.2: Number of students in Chiang Mai year 2007.....	10
Table 2.3: Number of teachers in Chiang Mai year 2007.....	10
Table 2.4: Comparison of grades.....	12
Table 2.5: The numbers of teachers from all institutions in Thailand in 2003.....	18
Table 3.1: Types of CPD provided by CPD providers (%).....	65
Table 3.2: Types of CPD reported by teachers (%).....	67
Table 3.3: Teachers' ratings of the quality of CPD.....	76
Table 3.4: Teachers' judgments of the effectiveness of different types of CPD (%).....	78
Table 3.5: Percentage of teachers reporting changes in teaching practice by phase of school and subject taught.....	82
Table 3.6: Five Levels of CPD Evaluation.....	93-94
Table 3.7: Evaluation of different outcomes of CPD according to leaders (%).....	95
Table 4.1: Characteristics of quantitative and qualitative research.....	109
Table 4.2: Advantages and disadvantages of quantitative research methods.....	111
Table 4.3: Advantages and disadvantages of qualitative research methods.....	112
Table 4.4: Methods for data collection.....	114
Table 5.1: Headteachers involved in the interviews arranged by date of interviews.....	129
Table 5.2: Teacher involved in the interviews arranged by date of interviews.....	130
Table 6.1: The gender of survey respondents (%).....	141

Tables	Page
Table 6.2: Age category of respondents (%).....	142
Table 6.3: Years of teaching experiences of respondents (%).....	142
Table 6.4: The occupation of survey respondents (%).....	143
Table 6.5: Subjects taught by the respondents (%).....	144
Table 6.6: Times when CPD activities were undertaken by respondents (%).....	145
Table 6.7: A comparison of the times when CPD activities were undertaken by years of teaching experiences (%).....	146
Table 6.8: A comparison of the times when CPD activities were undertaken by the types of the schools (%).....	147
Table 6.9: Length of CPD activities participated by respondents (%).....	147
Table 6.10: A comparison of the common length of CPD activities by years of teaching experience (%).....	148
Table 6.11: A comparison of the common length of CPD activities by the types of the schools (%).....	149
Table 6.12: Amount of time for CPD activities undertaken by respondents (%).....	150
Table 6.13: A comparison of the amount of time for CPD activities by years of teaching experience (%).....	151
Table 6.14: A comparison of the amount of time for CPD activities by the types of the schools (%).....	152
Table 6.15: A comparison of the types of CPD participated by male and female teachers (%).....	153
Table 6.16: A comparison of the frequency of types of CPD by years of teaching experiences (mean scores).....	155
Table 6.17: A comparison of the frequency of types of CPD by the types of the schools (mean scores).....	157
Table 6.18: A comparison of the content of CPD participated by male and female teachers (%).....	159
Table 6.19: A comparison of the content of CPD by years of teaching experience (mean scores).....	160

Tables	Page
Table 6.20: A comparison of the content of CPD by the types of the schools (mean scores).....	161
Table 6.21: A comparison of the providers of CPD between male and female teachers (%).....	162
Table 6.22: A comparison of the providers of CPD by years of teaching experience (mean scores).....	163
Table 6.23: A comparison of the providers of CPD by the types of the schools (mean scores).....	164
Table 6.24: A comparison of the resources available for CPD between male and female teachers (%).....	165
Table 6.25: A comparison of the resources available for CPD by years of teaching experience (mean scores).....	166
Table 6.26: A comparison of the resources available for CPD by the types of the schools (mean scores).....	167
Table 6.27: A comparison of the ways in which male and female teachers acquire skills and knowledge (%).....	168
Table 6.28: A comparison of the ways in which teachers with difference levels of experiences acquire skills and knowledge (mean scores).....	169
Table 6.29: A comparison of the ways in which teachers with difference types of the schools acquire skills and knowledge (mean scores).....	170
Table 6.30: A comparison of the new knowledge and skills used by male and female teachers (%).....	171
Table 6.31: A comparison of the ways in which teachers with difference levels of experiences use the new knowledge and skills (mean scores).....	173
Table 6.32: A comparison of the ways in which teachers with difference types of the schools use the new knowledge and skills (mean scores).....	174
Table 6.33: A comparison of the effectiveness of CPD reported by male and female teachers (%).....	175
Table 6.34: A comparison of the effectiveness of CPD reported by teachers with difference levels of experiences (mean scores).....	177

Tables	Page
Table 6.35: A comparison of the effectiveness of CPD reported by teachers with difference types of the schools (mean scores).....	178
Table 6.36: A comparison of the outcomes gained as a result of CPD activities reported by male and female teachers (%).....	180
Table 6.37: A comparison of the outcomes gained as a result of CPD activities reported by teachers with difference levels of experiences (mean scores).....	181
Table 6.38: A comparison of the outcomes gained as a result of CPD activities reported by teachers with difference types of the schools (mean scores).....	182
Table 6.39: Ways to increase opportunities for CPD as suggested by teachers.....	183
Table 6.40: Comments made from teachers concerning CPD.....	187
Table 7.1: Headteachers involved in the interviews arranged by date of interviews.....	194
Table 7.2: CPD activities available to teachers as indicated by headteachers.....	202
Table 7.3: The content of CPD activities available to teachers as indicated by headteachers.....	205
Table 7.4: The characteristics of effective and ineffective CPD reported by headteachers.....	206
Table 7.5: Teachers involved in the interviews arranged by date of interviews.....	220
Table 7.6: Types of CPD available to teachers both within and outside of the schools.....	223
Table 7.7: The content of CPD activities available to teachers as indicated by teachers.....	224
Table 7.8: The characteristics of effective and ineffective CPD reported by teachers.....	226

List of Abbreviations

APU	Anglia Polytechnic University
BA	Bachelor of Arts
BERA	British Educational Research Association
BPRS	Best Practice Research Scholarship
BPS	British Psychological Society
CIC	Construction Industry Council
CIMA	Chartered Institute of Management Accountants
CIPD	Chartered Institute of Personnel and Development
CPD	Continuing Professional Development
DfES	Department for Education and Skills
ECUK	Engineering Council UK
EPPI	Evidence for Policy and Practice Information
ESA	Education Service Area
ESRC	Economic and Social Research Council
GMC	General Medical Council
GPA	Grade Point Average
GTCE	General Teaching Council for England
HE	Higher Education
HEI	Higher Education Institution
HMCI	Her Majesty's Chief Inspector of Schools
HPC	Health Professions Council
ICT	Information Communications Technology
INSET	In-Service Education and Training
IPSE	Institute for Policy Studies in Education

ITT	Initial Teacher Training
LA	Local Authority
LEA	Local Educational Authority
MA	Master of Arts
MOE	Ministry of Education
NAEP	National Assessment of Educational Progress
NCSL	National College of School Leadership
NEA	National Education Association
NHS	National Health Service
NMC	Nursing and Midwifery Council
NPQH	National Professional Qualification for Headship
NSDC	National Staff Development Council
NUT	National Union of Teachers
OFSTED	Office for Standards in Education, Children's Services & Skills
ONEC	Office of the National Education Commission
PPD	Postgraduate Professional Development
QTS	Qualified Teacher Status
RAE	Research Assessment Exercise
SASS	Schools and Staffing Surveys
SPSS	Statistical Package for the Social Sciences
TDA	Training and Development Agency
TTA	Teacher Training Agency
US	United States

UK	United Kingdom
UKCC	United Kingdom Central Council
USA	United States of America
VCCS	Virginia Community College

Acknowledgements

I would like to express a particular thank to my supervisor, Professor Geoff Lindsay, for his advice and support on the supervision of this thesis. I also would like to thank all the respondents who gave their valuable time involving in the pilot study, interviews, and surveys. Finally, I would like to thank my parents for their encouragement. I am very grateful to all who have contributed to the success of this study.

Declaration

I certify that this thesis is my own work, and all the sources of information used have been acknowledged. This thesis has been completed to satisfy the requirements for the Doctoral Degree in Education at the University of Warwick. This work has not been submitted for a degree at any other university.

Abstract

Continuing Professional Development (CPD) of teachers has been seen as one of a key element to improve teacher quality and the quality of education in many countries, as well as in Thailand. The current Thai education reforms have recognized the importance of CPD for teachers to maintain and update their knowledge and skills to be able to teach students effectively. They also recognized the need of effective leadership in schools to lead, manage, and support teachers in order to achieve such change.

The purpose of this study is to support CPD experiences for teachers to enhance teaching practice and improve student achievement. It was undertaken using a combined methods investigations of both quantitative and qualitative data to understand the current situation of CPD experiences for teachers in Thailand, and extend the knowledge of effective CPD. The study covered respondents from a survey of teachers, and the interviews of headteachers and teachers from selected schools in Chiang Mai, which is located in the North of the country. It was concluded in the study that most respondents were appreciated opportunities for CPD and valued the benefits of CPD to teachers, students, and the schools as a whole.

With the increased expectations for highly qualified teachers, all schools need to provide the necessary support for teachers through a range of CPD experiences to enable them to teach to high standards. CPD must be of the highest quality to be effective in order to enhance the teaching practice and student achievement. The study hope that the results and information provided here would be valuable for anyone who are interested in, as well as those who are responsible for an improvement and implementation of CPD.

Chapter 1

Introduction to the Study

1.1) Introduction

Continuing professional development (CPD) of teachers is receiving plenty of attention from policy makers, researchers, educators, school administrators, teachers, and professional developers throughout the world. The importance of CPD for teachers is increasingly acknowledged as a key element in the improvement of teaching and learning process. As a result, many countries have recognized the value of CPD and support the learning opportunities for classroom teachers to be able to teach students effectively.

The Ministry of Education (MOE) in Thailand strives to enhance the quality of education and the quality of teachers through developing pre-service and in-service education and training, and supporting CPD. The Ministry of Education also places emphasis to equip educational leaders, middle management, and school administrators so that they can lead and support teachers in meeting the changes and challenges of the educational and professional environment (The Bureau of International Cooperation, 2005). Some of the key legislation supporting the strategy, such as the National Education Act and the Teacher and Education Personnel Act, will be discussed in the next chapter.

This chapter is divided into three sections to introduce the readers to the rationale for conducting the study, a brief overview of the research design, and the structure of the thesis. It is the researcher's hope that the information provided in this thesis will be of benefit to educators, researchers, and those whose responsible for implementing and supporting CPD to ensure a more direct impact on teachers, students, and the schools.

1.2) Rationale for Study

The current education reform efforts in Thailand have raised expectations for teachers and students for higher standards of teaching and learning in the classroom. As a result, teachers are expected to learn new roles and ways of teaching. They are being asked to update their knowledge and skills to meet the challenges of guiding students effectively (The Bureau of International Cooperation, 2005).

The education reform cannot succeed without the reform of teachers. Teachers have been seen as a key to improve the performance of the students. They are being called to engage in CPD experiences to enhance their school-based practice (Arthur, Marland, Pill & Rea, 2006). However, the focus and quality of these CPD experiences vary widely, and some of these learning opportunities do not enhance the teaching practice and the learning outcomes of the students (Wallace, 1996). In addition, educational leaders continue to provide ineffective CPD experiences for teachers. They tend to reinforce the perception of CPD as a series of short courses or workshops with little follow up or guidance for implementation (Guskey, 2000).

Teachers need well designed CPD programs and activities to be able to update their knowledge and skills, change their teaching practice, and educate students to high level of standards. Educational leaders need to stop providing ineffective CPD that does little to improve the quality of teaching. They need to find a better way to improve the quality and efficiency of CPD to increase teachers, instructions, and organizational effectiveness. In so doing, educational leaders need information about which models are most effective in promoting teacher change, and need to understand the factors that influence how teachers change as a result of CPD. By understanding these factors and characteristics of effective CPD, educational leaders can lead

schools to the level of success, and support teachers' learning and their abilities to teach all students to high standards.

The rationale for conducting this study stems from the fact that CPD is somewhat new in Thailand. Very little research on CPD for teachers has been conducted, and the majority of educational leaders and school administrators have limited knowledge on effective CPD. Therefore, information of the current situation of CPD experiences for teachers in Thailand, the characteristics of effective CPD, and whether certain kinds of CPD experiences are effective or ineffective would be useful for educational leaders in helping teachers to improve their teaching practice and, in turn, improving an academic performance of the students.

1.3) Overview of the Research Design

Research Objectives

The purpose of this study is to examine CPD experiences for teachers to enhance teaching practice and improve student achievement. Thus, the objectives of this study are as the following:

1. To identify the roles that effective headteachers need to do to foster program implementation and improvement
2. To explore the types and content of CPD that teachers experience in Thailand
3. To explore the forms of CPD that teachers find most useful for improving their skills and competence
4. To identify the teachers' use of new knowledge and skills developed by CPD
5. To identify the benefits of CPD to teachers, schools, and students
6. To identify any gender differences that may exist with regards to the teachers' views and preferences for CPD

Research Questions

In order to reach the research objectives, the following research questions provided a framework for conducting the study:

1. What is the role of the headteachers in promoting and supporting CPD?
2. What are the various types and content of CPD activities and programs that teachers experience in Thailand?
3. What are the characteristics of effective CPD?
4. Is CPD making a difference to the quality of teaching in schools?
5. Are there any relationships between CPD and student achievement and behaviour?
6. Are there any gender differences in the teachers' views and preferences for CPD?

Research Methodology

To address the research questions, a combination of quantitative and qualitative methodologies are used in this study to provide complementary strengths and overcome weaknesses of each other. Participants in the study included headteachers and teachers from various types of schools in Chiang Mai, Thailand to represent different kinds of administrative support and different programs and approaches of CPD. In so doing, the following procedures were used for gathering data:

- Quantitative method: Surveyed teachers and analyzed the data with SPSS
- Qualitative method: Interviewed headteachers and teachers. These interviews were transcribed and analyzed by hand according to codes and themes.

1.4) Structure of the Thesis

This thesis is organized into nine chapters and is structured in the logical steps that run from chapter to chapter. All chapters begin with a brief introduction and inform the readers what will be discussed in each particular chapter. The first chapter has been written to provide an overview of the research design and introduce readers to the remaining chapters of the thesis. The next chapter is an introduction to Thailand. The contents about Thai education system and teacher education and training are provided in this chapter for a better understanding of the environment and perspectives of the study.

A literature review of CPD is presented in Chapter 3 to provide information relating to a general background and justification for addressing research questions. This literature review contributes to provide an understanding of what is meant by CPD, what types of CPD are available to teachers, what factors make CPD effective, and whether CPD has effects on teachers, students, and the schools.

Chapter 4 discusses a literature review of research methodology. The advantages and limitations of the research methods chosen for this study, and the reasons for choosing them are presented in this chapter. Following the literature review of research methodology, Chapter 5 provides a description of the methodological procedures that have been used in the study, as well as the ways in which information has been gathered.

Chapters 6 and 7 are devoted to the analyses and interpretation of quantitative and qualitative data respectively. A statistical analysis of information collected from the teachers' survey is presented in tables in Chapter 6. A descriptive analysis of information collected from interviews of headteachers and teachers is presented in

Chapter 7. Both types of information are used to complement and support each other for a discussion of the findings in chapter 8.

Chapter 8 explores answers to the research questions by discussing key findings based upon the quantitative and qualitative analyses conducted and presented in the previous two chapters. The chapter ends with recommendations and concluding comments regarding facilitating and implementing CPD for teachers in Thailand. Finally, the concluding chapter gives a summary and draws conclusions from the results covered in the thesis. The limitations of this study and suggestions for further studies are also presented in Chapter 9.

Following the concluding chapter is the references section. The references section contains the list of sources from different authors cited throughout the thesis whenever appropriate. The thesis also has eleven appendices. All appendices in the thesis are presented together after the references section.

1.5) Conclusion

This chapter presents the rationale for the study, overview of the research design, and a view of the logical structure of the thesis. The thesis attempts to provide an insight of the current situation of teachers' CPD experience in Thailand, extend the knowledge of the benefits and effective characteristics of CPD, and better understand the roles and responsibilities of headteachers in leading and supporting CPD. It is the researcher's belief that CPD should be well designed and carefully implemented to ensure that teacher learning has a more direct impact on student achievement.

Chapter 2

Teacher Education and Training in Thailand

2.1) Introduction

The quality of education and the quality of Thai teachers is considered to be a critical problem in the Thai education system as evidenced by unsatisfactory achievement in students' academic performance. The poor quality of education is further evidenced in the performance of Thai students in many international tests, such as the International Science and Mathematics Olympiad. These problems require the need to reform in order to promote the role of education in enhancing student's quality, and to respond to national development needs (The Thailand Education Reform Project, 2002).

There seems to be widespread agreement that the quality of education and the quality of Thai teachers must be enhanced as an extremely urgent task of the Ministry of Education (MOE) in Thailand. In response, the MOE has played major roles in enhancing the quality of education and the quality of Thai teachers through developing teacher education and providing in service training for teachers. Both of these efforts are essential to make sure that all teachers have a good groundwork, and for continuing to improve their skills and knowledge that they need to carry out their tasks effectively.

This chapter gives a brief overview of Thailand, its education system, and the weakness of teacher education to produce highly qualified teachers. It will then discuss the policies and efforts that the MOE has focused to achieve the improvement of quality education for all students. It is clearly recognized that substantial improvements and reforms are essential and must be done to cope with the problems of low quality education and low qualified teachers in Thailand.

2.2) An Overview of Chiang Mai, Thailand

Thailand is situated in the heart of the Southeast Asian mainland and is divided into 76 provinces. Each province is divided into districts, and the districts are then divided into sub-districts. The largest city and capital of Thailand is Bangkok. There are approximately 63 million people in Thailand, and 14.4 million of these numbers are students (The Bureau of International Cooperation, 2005).

Chiang Mai is the second largest city in the nation after Bangkok and is a largest city in Northern Thailand (Scholastic Assistance for Global Education, 2007). Chiang Mai has five districts with a total population of approximately 1.5 million people (Tourism Authority of Thailand, 2008). In recent years, Chiang Mai has been seen as a city which serves as the economic, cultural, educational, and religious center of the Northern provinces. There is a wide variety of schools in Chiang Mai, ranging from preschool, primary, secondary, vocational, special education, international schools, colleges, and universities. As can be seen in table 2.1, the majority of education services are provided as part of the government public school service: approximately 86% of the schools in Chiang Mai are public and 14% are private. However, the Ministry of Education has encouraged local government and private schools to take a more active role in provision. As a result, there has been a significant private sector expansion in provision, particularly vocational and bilingual schools are notable for the relatively high percentage of the private sector.

Table 2.1: Number of schools in Chiang Mai year 2005

Type of Education	Level of Education	Public	Private
1. General Education	Pre-primary - Primary Education	685	42
	Primary - Lower Secondary Education	122	32
	Primary - Upper Secondary Education	75	44
	Secondary Education	98	15
	<i>Total</i>	<i>980</i>	<i>133</i>
2. Vocational Education	Upper Secondary – Post Secondary	3	14
3. Special Education	Pre-primary - Upper Secondary Education	3	0
4. Bilingual Education	Primary-Upper Secondary Education	0	6
5. International Education	Primary-Upper Secondary Education	0	8
Total		986	161

Source: Office of Chiang Mai Educational Service Area (2005)

There are five Education Service Areas (ESA's) in Chiang Mai (district 1-5). Each ESA is responsible for approximately 200 schools, covering 30,000-40,000 students. The total numbers of students in Chiang Mai in 2007 was 188,972 (Table 2.2) with the total numbers of 8,697 teachers in educational institutions (Table 2.3). Therefore, the overall teacher-student ratio was 1:21.

Table 2.2: Number of students in Chiang Mai year 2007

Type of Education	Level of Education	Total
1. General	Kindergarten	22,598
	Primary	100,683
	Lower Secondary	44,780
	Upper Secondary	20,353
2. Vocational Education	Upper Secondary	558
	Post Secondary	N/A
Total		188,972

Source: Bureau of Inspection and Evaluation (2007)

Table 2.3: Number of teachers in Chiang Mai year 2007

Districts	Lower than Bachelor's Degree	Bachelor's Degree	Master's Degree	Ph.D	Total
District 1	26	1,475	322	1	1,824
District 2	48	1,618	332	2	2,000
District 3	37	1,600	152	10	1,799
District 4	11	1,179	175	1	1,376
District 5	69	1,487	142	0	1,698
Total	201	7,359	1,123	14	8,697

Source: Bureau of Inspection and Evaluation (2007)

2.3) Education in Thailand

Education in Thailand is administered and managed by the government at three levels, including central level, educational service areas, and educational institutions. At the central level, the Ministry of Education/Provincial Ministries of Education are responsible for promoting and overseeing all levels and types of

education, mobilization of resources for education, as well as formulation of education policies, plans and standards. The Education Service Areas (ESA's) are responsible for coordination, promotion, and support of local administration organizations to be able to provide education and training in accord with educational policies and standards; to approve the policy and budgets of the schools; and monitoring, inspection, and evaluation of educational institutions. Finally, the Educational Institutions are responsible for providing education to all students; promoting academic matters and the development of teachers and educational personnel; and participating in the monitoring, inspection, and evaluation of the administrators (Office of the National Education Commission, 2003).

The development of Thai education started to move forward to keep up with changes and challenges from the year 1997 for the restructuring of the Thai economy and society after the economic crisis. Presently, the framework of education in Thailand is based on the *1997 Constitution* and the *1999 National Education Act*. The *Constitution* aims to improve the quality of education and ensure the rights of Thai people to receive a free of charge basic education, while the *National Education Act* serves as the fundamental law for administration and provision of education and training (see above).

Basic education services are provided by both public and private bodies. Education provision is divided into 6 years of primary schooling, 3 years at lower secondary, and 3 years at upper secondary (Table 2.4). A free basic education of twelve years is guaranteed by the Thai Government, and all children are required to undertake a minimum of nine years' school attendance (Office of the National Education Commission, 2003; The Bureau of International Cooperation, 2005).

Table 2.4: Comparison of grades

Age	Thailand	England	U.S.A
3	Kindergarten year 1	Pre-school	Pre-school
4	Kindergarten year 2	Pre-school	Pre-school
5	Kindergarten year 3	Reception	Kindergarten
6	Primary year 1	Year 1	Grade 1
7	Primary year 2	Year 2	Grade 2
8	Primary year 3	Year 3	Grade 3
9	Primary year 4	Year 4	Grade 4
10	Primary year 5	Year 5	Grade 5
11	Primary year 6	Year 6	Grade 6
12	Lower Secondary year 1	Year 7	Grade 7
13	Lower Secondary year 2	Year 8	Grade 8
14	Lower Secondary year 3	Year 9	Grade 9
15	Upper Secondary year 1	Year 10	Grade 10
16	Upper Secondary year 2	Year 11	Grade 11
17	Upper Secondary year 3	Year 12	Grade 12
18		Year 13	

Pre-school education (also known as kindergarten) is the provision of education for children between the ages of three and five years. It is generally in the form of childcare and readiness development, and can also be organized in the form of day care centres. Primary education is the first stage of compulsory education for children between 6-11 years old. It is preceded by pre-school education and is

followed by secondary education, requiring the total of 6 years of study (The Bureau of International Cooperation, 2005).

Secondary education is divided into two parts, including lower secondary education and upper secondary education. Both parts require that the children undertake 3 years of study. The lower secondary education is the final stage of compulsory education for children between 12-14 years old. It aims to enable them to identify their needs and interests, be aware of their aptitude in terms of general and vocational education, and develop their skills and ability for occupational practices relevant to their age. An upper secondary education is an education for children between the ages of 15-17 years old. It aims provide acquire the basis either for furthering to higher education or for working and pursuing a career suitable for them (see above).

In addition to a basic education, vocational education is provided in educational institutions belonging to both public and private sectors. Vocational education is conducted at three levels, including upper secondary, post secondary, and at university level. There are approximately 1 million students across the vocational study pathways. An upper secondary education leads to the lower certificate of vocational education, a post secondary leads to a diploma or vocational associate degree, and at university level leads to a degree. Vocational education consists of eight major fields of study. These are trade and industry, agriculture, home economics, fisheries, business and tourism, arts and crafts, textiles, and commerce (Office of the National Education Commission, 2003; The Bureau of International Cooperation, 2005).

The Thai academic year is divided into two semesters: the first runs in late May until September, and the second runs from October to February. The summer school break is between March and May. The Thai curriculum consists of eight core subjects including Thai language, mathematics, science, social studies, physical education, art, career and technology, and foreign languages. The curriculum of each subject area has flexibility to integrate local wisdom and culture as long as it is consistent with the learning standards. Importantly, the heart of the teaching and learning is to promote thinking skills, self learning strategies, and moral development of the students (Office of the Education Council, 2004; The Bureau of International Cooperation, 2005).

2.4) The Role of a Teacher

Teaching is one of the most challenging professions that exist in Thailand. This profession offers opportunities to create a positive impact on a community. There are approximately 614,000 teachers responsible for basic education of around 14.4 million students (The Bureau of International Cooperation, 2005). These teachers are responsive to the diverse population of students, who come from different socio economic backgrounds, have different characteristics, and possess a range of abilities and talents.

Teaching is obviously a hard and complex job. It requires the ability to do several things and demands more than just knowing a subject matter well. Teachers are asked to make good decisions and fulfill roles ranging from instructor to students' caretaker. They are called upon to teach and motivate students, promote learning environment, plan lessons, grade papers, and perform other administrative tasks. According to the result of the Research on the Efficiency of Teacher Utilization, it

was found that teachers on the average spent 17-21 hours per week on teaching, 5-8 hours on work supporting teaching, and 2-4 hours on administration and other services (Ministry of Education, 1996). Similarly, a survey on the workload of Thai teachers conducted by the Office of the National Education Commission (ONEC) in 1999 reveals that the average workload of teachers at all levels was 28.7 hours per week. Additionally, the average time teachers at all levels spent per week was 13.2 hours on teaching, 6 hours on preparing lessons, 5.4 hours on teaching support, and 4.1 hours on administration and other services. The amount of time teachers spent in each activity depends on the subject areas they teach. Mathematics teachers seemed to have the highest workload on 31.4 hours per week, compared to Thai language teachers who had a workload of 21.4 hours per week (Education Survey and Research Centre, 2000.)

The Office of the National Education Commission (ONEC) defines a teacher as *“a professional whose major responsibilities include teaching and learning and motivation of the learners in public and private educational institutions to learn through various methods”* (Pitiyanuwat, 2000). These teachers are responsible to teach students at the preschool, primary, or secondary school level. They may be certified to teach the early childhood grades (kindergarten year 1-3), the elementary grades (primary year 1-6), the secondary education grades (lower secondary year 1 - upper secondary year 3), or in a specific subject field such as English or Mathematics (from primary through upper secondary year).

Teachers are seen as ongoing professional learners who often seek to strengthen their skills, knowledge, and practices. They need to develop professionally to keep up with changes in the field, and engage students in meeting the high demands of a rapidly changing world. The Ministry of Education (MOE) in Thailand has set

out the principle for teachers to be entitled to achieve high quality and encourage them to undertake CPD throughout their careers (Office of the National Education Commission, 2003).

Teachers need to build upon their knowledge, skills, and experiences through CPD. They may participate in CPD activities during and after school, on weekends, holidays, and over the summer. All teachers require different types of support so that they may consistently plan, facilitate, and assess quality learning experiences. Supporting ongoing CPD is essential for teachers to develop and achieve success in the teaching profession (The Bureau of International Cooperation, 2005).

2.5) Teacher Qualifications

For several decades, there was no need for those working as teachers in Thailand to hold a teaching license or to spend more time undertaking a teacher training program after completing a bachelor's degree. The process of becoming a teacher was to gain a diploma or a bachelor's degree in education or other specialist subject areas from an approved college or university, and/or acquire a master's degree in education or other specialist subject areas afterwards. Graduates who receive a degree in education may become a teacher in a public or private school. These graduates must complete education courses and training requirements, while majoring in an academic discipline such as English or Mathematics. On the other hand, graduates who receive a degree in mathematics or sciences may become teachers of mathematics or teachers of physics. These graduates who receive a degree in academic disciplines may never have taken an education course at all. A minimum requirement for them was to hold a diploma or a bachelor's degree in the subject they will teach. However, Thailand is currently in the process of instituting new

qualifications for teachers. The new regulations in Thailand require all teachers to have a bachelor's degree in education, which is extended from 4 to 5 years of study. For those people with a bachelor's degree in other discipline areas, they will have to take a one year teacher training courses in order to become a teacher (The Bureau of International Cooperation, 2005).

Most of those who become teachers in Thailand have qualifications ranging from diplomas to Masters Degree in education, while some of them have qualifications ranging from diplomas to Masters Degree in other discipline areas. In 1997, the numbers of graduates in education were 65,286 at level of a diploma, 12,130 at level of a bachelor's degree, and 2,697 at a higher than a bachelor's degree level. The number of in service teachers of both public and privates sectors in 1998 were 684,608. Among these numbers, 94,851 or 13.85% of the total numbers of teachers had less than a bachelor's degree (Pitiyanuwat, 2000).

Southeast Asian Ministers of Education Organization (2003) reported that the levels of teachers' qualifications in both public and private schools have increased. Teachers with lower than bachelor's degree in public schools decreased from 28.9% in 1990 to 20.7% in 1993, and teachers with lower than bachelor's degree in private schools decreased from 49.9% to 42.8%. Teachers with a bachelor's degree in public schools increased from 65.7% in 1990 to 74.7% in 1993, and teachers with a bachelor's degree in private schools increased from 45.9% to 52.8% in 1993. Although teachers with higher than bachelor's degree in both public and private schools were still less than 5% in 1993, the proportions of teachers possessing bachelor's and master's degrees tend to increase gradually. Table 2.5 also shows the number of school teachers in Thailand in 2003 with the qualifications ranging from diploma to higher than a master's degree. The proportion of teachers with lower than

bachelor's degree in both public and private schools was 10%, bachelor's degree 79%, and higher than bachelor's degree 11%.

Table 2.5: The numbers of teachers from all institutions in Thailand in 2003

Degree Level	All institutions (Year 2003)
Diploma	62,085
Bachelor's	48,1315
Master's	54,439
Ph.D	9,880
Total	607,719

Source: Ministry Operation Center (2003)

2.6) Teacher Training Programs

Teacher education in Thailand has undergone many changes since 1892. In the 1960s, a larger number of teacher training institutes were established to meet a higher demand for more teachers. This expansion was precipitated by three major factors, including the extension of compulsory education, population growth, and the availability of secondary education to a larger population (The National Identity Office, 1995).

There are two main types of teacher training establishments, including teacher colleges (Rajabhat Institutes) and Faculties of Education within universities. The current available training services to deliver training to teachers and administrators include 50 Rajabhats (Teacher Training Colleges) and 229 Faculties of Education in Universities across the country. The credit courses offered by these institutions range from certificate in education programs to master degrees. Some of these institutions

also offer education programs at the doctoral degree level (The Thailand Education Reform Project, 2002.)

Teacher education aims to train and develop trainee teachers to acquire skills, knowledge, and ability in teaching and motivating learners to learn. Trainee teachers must complete coursework in the subject area they plan to teach, as well as pedagogy, classroom management, psychology, child development, and other related topics. Typically, another part of a teacher's education is to supervise a teaching experience to all trainee teachers (Office of the National Education Commission, 2003). According to the new curriculum, the first four years are focused on the coursework while the last year is dedicated to teaching practice (The Bureau of International Cooperation, 2005).

Most teacher training institutions, the majority of which are the faculties of education of different universities, offer programs in Early Childhood Education, Elementary Education, Secondary Education, Special Education, and Educational Administration. The degree in early childhood education is designed to provide training of teachers in the field of early childhood education through such courses as early childhood development and child psychology. Graduates who receive a degree in early childhood education may provide childcare/daycare or teach in preschool or kindergarten. The elementary education major consists of elementary education content specializations from a wide array of subjects, in addition to general teacher education courses. Elementary Education majors are prepared to accept jobs at the elementary level and may teach all subjects areas in primary year 1-6. The secondary education major consists of a number of credit hours in a major or minor field in addition to the professional teacher education courses. This major and/or minor is taken in the areas in which the trainee teacher wishes to teach in a secondary

education setting. Graduates who receive a degree in secondary education may teach in lower secondary – upper secondary year in their major and/or minor content areas. The special education major aims to provide trainee teachers with skills to deliver education to children with different special needs. Coursework may include instruction on learning disabilities, child psychology, and methods or assessment for learning disabilities. Graduates who receive a degree in special education receive a credential to teach in primary to upper secondary year. Finally, the degree in education administration offers students coursework and learning opportunities to develop knowledge, skills, and experiences necessary for leadership roles in educational settings. Most programs in education administration occur at a master's or doctoral degree levels, and are intended for teachers and educators who wish to qualify as administrators or supervisors in schools or educational service agencies.

Admission for most teacher training institutions is open to all students who may enroll as full-time undergraduate and/or full-time or part-time postgraduate students. Candidates are selected by means of entrance requirements, grade point average, and examinations. The number of teachers graduated from these teacher training institutions during 1997 to 2001 was between 20,000-25,000 at first degree and 20,000 at higher degrees (Charupan, 2002.)

2.7) The Weakness of the Education System

It is claimed by researchers that the great majority of the graduates from teacher education programs are not well-prepared (Charupan, 2002; Hickok, 1998; The Thailand Education Reform Project, 2002). Many hired teachers in Thailand, as well as in another countries (e.g. United States) are under-qualified for the job. As there are two routes of becoming a teacher in Thailand (one is to gain a degree in

education and another is to gain a degree in other subject areas), most of under-qualified teachers are majored in education rather than an academic discipline (Charupan, 2002). These various factors that produce under-qualified teachers are low admissions standards, lack of subject matter knowledge, low grading standards, vague curricular requirements, unqualified staff, out-of-date courses, and lack of available resources.

- 1) *Low admissions standards:* Most colleges of education departments in Thailand set low admission standards requirements. In Thailand, grades are generally assigned by either numbers or letters (depends on schools), where 4 or A equals excellent (80-100), 3 or B equals great (70-79), 2 or C equals above average (60-69), 1 or D equals average (50-59), and 0 or F equals fail (0-49). Additionally, most schools will calculate a student's grade point average (GPA), ranging from 0.00 to 4.00 to measure a student's average performance. Most education programs set their admission requirement at a 2.50 grade point average, while other programs set their admission requirements higher, for example at 2.75 in accounting or economics, and 3.00 in language or linguistics (Chulalongkorn University, 2006). Moreover, according to the scores of entrance exams, education majors are more likely to be in the bottom quartile compared to other majors. Students preparing for undergraduate work in education scored below those who interested in pursuing other majors. For example, the mean score of intended education majors was 239 compared to 260 for intended engineering majors, 266 for economic majors, 268 for political science majors, and 539 for medical science majors (Entrance Information Center, 2005). This is similar to a

minimum requirement for admission in the United States, where universities required an overall GPA of 2.5 and a passing score on state education entrance examinations for admission to the teacher education programs (Rice, 2005).

- 2) *Lack of subject matter knowledge:* Teachers who graduate from teacher preparation institutions in Thailand have limited knowledge in the subject they are teaching. Charupan (2002) argues that teachers lack preparation in the subjects they teach and do not feel well prepared to teach to high standards. Since most teacher preparation institutions place low priority on deep subject matter mastery and are heavily credentialed in pedagogy, many teachers become certified without having mastered the content that they are expected to impart to their students. The lack of the content knowledge of teachers in Thailand is quite consistent with the research literature in the US and other countries. For example, Rice (2005) in a descriptive study of elementary science teachers in the US reported that trainee teachers also lacked of the subject matter preparation. These teachers generally had weak backgrounds in science, poor attitudes toward science and science teaching, and were insecure about teaching science. They often lacked basic understanding of many concepts that appear in state science standards and elementary science texts. They also expressed very low levels of confidence in their science content knowledge. Many of these trainee teachers reported that they would plan to take more science courses, read and engage in in-service programs and use internet resources to compensate for their weakness in science content. However, once they have completed their undergraduate programs, few of these trainee teachers will engage in professional development activities to

improve their science teaching. Rice (2005) also reported that responses from teacher surveys revealed that in the preceding three years, 14% of teachers had taken a college course in teaching science, 12% had taken a college science course and 6% had attended a national or state science teacher association meeting. This study indicated that any formal science content preparation ends upon completion of their undergraduate programs.

- 3) *Low grading standards:* There is evidence that grading standards in education programs in Thailand are low. Most schools place little emphasis on the content knowledge of students rather than what is reflected on their grade point averages (The Thailand Education Reform Project, 2002.) Many students in teacher training programs perform excellence in pedagogy courses, but they are in-between average performance and below average performance in academic subject courses. The low grading standards of students in teacher training programs in the US is similar to Thailand. Hickok (1998) claimed that most students, from teacher training programs in Pennsylvania, who took courses in content pedagogy received A grades. However, few educational students who took courses in their majors or minors such as English or Mathematics received grade A in a particular academic discipline.
- 4) *Vague curricular requirements:* Students preparing to be teachers in Thailand are not required to take the same academic content area courses that their peers who majored in those areas have to complete. For example, while maths majors have to complete courses required to attain expertise in mathematics, educational students preparing to teach mathematics can substitute other courses in pedagogy for these academic disciplines (The Thailand Education

Reform Project, 2002.) Hickok (1998) suggests that education students should take the courses that require them to gain expertise in the subjects they will teach. Training in teaching methodology or child development cannot substitute these challenging experiences in an academic area.

5) *Unqualified staff*: There is a lack of knowledge and skills of current innovation in teaching and learning amongst not only the teachers but also the teacher educators. This lack of knowledge and skills is further confounded by a lack of capacity and enthusiasm amongst the staff at teacher training colleges and the faculties of education in the universities. Most teacher training institutions lack qualified staff. For example, staff qualifications in teacher training institutions are lower than in universities with only 5% of the staff having Doctoral qualifications and a further 65% having Masters Degrees (The Thailand Education Reform Project, 2002.) Furthermore, many of these degrees have been gained many years earlier (Fry, 1999.) Teacher educators need to upgrade their knowledge and skills before they can train the trainee teachers in new teaching approaches such as the student centered learning.

6) *Out-of-date courses*: In-service teacher training is not new in Thailand, but the purpose, content, and processes used in the past are unsuitable for trainee teachers and are out of date. The Thailand Education Reform Project (2002) indicates that most current pre-service and in-service courses are outdated and lack of focus on the new teaching and learning methods. Although some new pre-service programs are being introduced, they are basically old content in a new format with little interactive process. Furthermore, courses for self

development through action research have not been considered or encouraged. A highly teacher-centered or didactic approach has existed for a long time in Thailand. This seems to be an over emphasis on the traditional and socio-cultural issues where participations in the classroom was not appreciated.

- 7) *Lack of available resources*: There is concern with the support services and appropriate resources available to those who engage in self development. Resources such as library material, computers, and other electronic equipment are insufficient but are absolutely essential for the successful development and delivery of high quality learning (The Thailand Education Reform Project, 2002.)

The ineffectiveness of most current teacher training programs is threatened due to the above factors. However, not only those who graduate from teacher preparation institutions are ill-prepared, but also those who graduate with no teacher training qualifications need to develop as well. Teachers who hold a degree in an academic disciplines lack knowledge of pedagogy, and have the tendency to have lower level of academic competence, compared to their peers.

- 1) *Lower level of academic competence*: College graduate with high grade point average in other disciplines areas are less likely to become teachers. For example, graduates who received a degree in mathematics often have distinct advantages in other fields such as physics, finance, and economics. They are less likely to take teaching jobs, and often consider other jobs which pay higher salary. Those who intend to take teaching jobs have a lower grade

point average than those expressing an interest in any other field (The Thailand Education Reform Project, 2002.)

- 2) *Lack of pedagogical knowledge:* Teachers who hold a degree in academic disciplines lack knowledge of pedagogy. They never take any education courses concerning how to teach or instruct students. They have never been trained about how children learn and how to encourage them into the learning process. However, the current regulations in Thailand require new holders of degrees other than education to meet the standard of a teaching profession by taking another year teacher training courses. As argued by the MOE, knowing only the subject matter is not going to bring about the teaching expertise. Teachers without pedagogical knowledge and lack the training are unqualified to teach competently (Charupan & Leksuksri, 2000.)

It has been argued that the quality of teachers and teacher education in general continues to decline (Charupan & Leksuksri, 2000.) The need to upgrade teachers was noted by Chulavatnatol (1997) who argues that it is necessary to upgrade in-service teachers and teacher education because the teachers play a key role in education of the youth in Thailand. Quality education will be impossible without quality teachers (The Thailand Education Reform Project, 2002.)

2.8) Teacher Quality

Teacher quality is one of the most important factors influencing student achievement. A highly qualified teacher is essential for students in order to achieve high standards. Highly qualified teachers are those with the subject-matter knowledge

and teaching skills necessary to teach students effectively. Well-prepared and qualified teachers are essential to ensure successful implementation of education reforms (Hammond, 2000).

Research findings demonstrate that teacher quality is an important factor affecting student achievement. Hammond (2000) examines the ways in which teacher qualifications are related to student achievement across states by using data from a 50-state survey of policies, state case study analyses, the Schools and Staffing Surveys (SASS), and the National Assessment of Educational Progress (NAEP). The findings suggested that students who are assigned to ineffective teachers demonstrate lower achievement than those who are assigned to highly effective teachers. Moreover, a teacher's content knowledge is another important determinant of student outcomes. Measurement of subject matter knowledge makes a difference as shown by the findings that students who are assigned to teachers with more subject knowledge are students who perform better in the subject matter.

As researchers have shown that knowledge of the material to be taught is essential to good teaching, there is a mismatch between teachers' academic preparation and the demands of students expecting to meet high standards in Thailand. At present, the majority of teachers have a degree in education, but only a few have a bachelors or masters' degree in any academic field. However, more important than degrees earned is the quality of education that teachers have had. Both pedagogical and a subject matter knowledge should be emphasized as important qualities that a teacher possesses. A balance should be sought between a teacher's subject knowledge and pedagogical knowledge in order to ensure that prospective teachers graduate from high quality preparation programs (The Thailand Education Reform Project, 2002.)

The new guidance from the MOE indicates that teachers need to develop professionally and be highly qualified in the content area that they teach. All teachers have a responsibility to improve their performance, demonstrate knowledge in the subject they are teaching, and share their experiences with colleagues. In 2005-2006, the MOE allocated a large amount of money for CPD projects to ESA across the country to improve teacher training and in-service training for teachers. Further amounts of money will also be allocated between 2006-2010 to ensure that all teachers and educational personnel are highly qualified to bring students to a level, where they achieve (The Bureau of International Cooperation, 2005).

2.9) Teacher Training and Development

The poor quality of education and the decline in the quality of Thai teachers have been recognized by many educators and researchers. Major reasons for low quality are the inefficient processes of teaching and learning, and the lack of qualified teachers as the consequences of teacher production and development process and teacher development opportunities. Charupan (2002) reported that the present education system cannot retain high quality teachers since most students who entered into the institutions do not want to be in a teaching career. Most students do not regard teaching as an attractive and desirable profession because teacher salaries are low when compared to some other professions, such as medical science or engineer. The base level salary for doctors or engineers in Thailand is around 10000-20000 baht or £194.64 - £389.29 a month (depends on the organizations), whereas the base level salary for teachers with a Bachelor degree is 6,360 Baht (£123.79) and those with a Masters degree are 7,780 Baht (£151.43) only. Moreover, the relatively low salary coupled with fewer opportunities for accelerated promotion makes teaching a very

low priority vocation amongst the brighter students (The Thailand Education Reform Project, 2002) (Currency Exchange Rate, 2009).

At some part, the decline in the quality of Thai teachers and the need for qualified teachers may due to the fact that there being a large number of teachers in schools who do not have any teacher training at all. Many teachers working in schools have qualifications ranging from diplomas to Masters degrees in their discipline areas but have no teacher training qualifications. Moreover, most of the teachers, who have had teacher training qualifications and those who have had qualifications from other discipline areas, had little or no CPD courses since they graduated. Even they had attended some refresher training courses or seminars, these courses are ineffective and unsuitable for their teaching responsibilities (The Thailand Education Reform Project, 2002).

Continuing professional development and practices were found wanting in the majority of teachers during the past two decades. There are many teachers who reported feeling unprepared by the colleges/universities from which they graduated. These teachers are not confident to teach students, and expressed the need to gain greater expertise for teaching students effectively (see above).

The Ministry of Education (MOE) has committed to the development of teachers and education in Thailand. It has established several laws, rules, and regulations in line with the *1997 Constitution* and the *1999 National Educational Act*. In order to meet the requirements of the *Constitution* to improve the quality of education, the *National Education Act* has outlined a clear policy for the improvement of teachers, faculty staff, and educational personnel. As stipulated in the *National Education Act*, the pre service and in service education and training of teachers, staff members, and educational personnel must be developed urgently and changed

comprehensively both in public and private schools (Office of the National Education Commission, 2003).

As of 2003, teacher education courses and curriculum for the Bachelor's degree was developed and extended from 4 to 5 years in mainstream Universities and Rajabhat Universities. According to the new training system, 4 years was dedicated to coursework while the final year devoted to teaching practice at an approved school (The Bureau of International Cooperation, 2005). Moreover, the MOE has recognized the importance of CPD since initial teacher training is no longer sufficient to provide teachers all the knowledge and skills they need throughout their careers. Therefore, in service training has been promoted to upgrade all in service teachers, staff members, and administrators to raise professional standards and practices. Educational administrators and personnel have been encouraged to provide training and skills development opportunities to teachers and staff members. Educational leaders and administrators have also been encouraged to undertake courses and programs to equip themselves with the change management skills for the overall transformation. These programs included courses for decision making, team building, communicating, and problem solving (The Bureau of International Cooperation, 2005).

In order to further achieve the objectives of the educational reform policies, the *2004 Teacher and Education Personnel Act* was promulgated to redefine standards, incentives, entitlement and detail the required knowledge, skills, and attitudes for teachers and administrators. The MOE has formulated its strategic plan for effective implementation of Teacher and Education Personnel Reform (2004-2013). Three key themes to enhance the quality of teachers and education personnel include change perceptions on a career in education, produce new trend in teacher

training institutions, and develop the potential of teacher, staff members, and educational personnel through ongoing CPD (see above).

In the year 2006, several projects have been undertaken to enhance the quality of education and the quality of teachers. Resources and investment for education and development of teachers, faculty staff and educational personnel have been allocated to raise the standards and professionalism in terms of ethics, as well as academic skills. There were large number of teachers and education personnel who attended conferences and training courses to support their CPD in Local Education Service Areas across the country. The MOE also supports CPD activities in schools and the use of computers and access of internet for networking between teachers to share new teaching and learning techniques. These collaborative networks both online and face-to-face activities facilitated interaction and sharing of experiences and common interests and lead to further improvement in the classroom (The Bureau of International Cooperation, 2005).

The Ministry of Education concludes that the training and development of teachers, faculty members, and education personnel have been and will further be reformed on a continuous process. Administrators, teachers, and staff members need training to grow professionally. Developing new teacher education programs and providing in-service training for teachers and staff members can raise the standard of academic and professional abilities in schools.

2.10) Conclusion

Education in Thailand is not as effective as it should be due to the low quality of Thai teachers. Many teachers are not well-prepared to teach students to high

standards. As a result, the MOE has placed a priority to teacher education and development in order to achieve the goals of high quality education for all students.

The Ministry of Education (MOE) in Thailand is responsible for leading the transformation and reforming the teaching and learning process. The revision of the curriculum for teacher education has been undertaken, as well as the requirement of in-service teachers to be trained to update their knowledge and skills with the changing world. The MOE believes that these dedication and efforts can result in a significant improvement in many aspects of education in Thailand.

Chapter 3

Literature Review of CPD

3.1) Introduction

Professional development in professions took the form of apprenticeship in the past. There was little formal training available and continuing professional development (CPD) was not compulsory. However, it has been recognized in recent years that the knowledge acquired through initial education does not equip practitioners with the skills and knowledge they need for their entire careers. As driven by many factors such as economy, society, and technology changes, CPD has increased considerably and many professions have adopted some form of CPD policy and strategy to help members of the organizations to maintain and develop their professional competence (Cheetham & Chivers, 2005).

Continuing professional development (CPD) is one of the main elements to ensure maintenance and further development of quality provision in any profession. Many professions, especially in the health field, require evidence of CPD so that professionals can continue registration as practitioners (Muijs & Lindsay, 2008). Professions typically put considerable effort into encouraging their members to participate in CPD. Their approaches to policy requirements, delivery, enforcement, and accreditation vary, however, and there is little agreement as to which approaches are the most effective (Cheetham & Chivers, 2005).

This chapter contains a review of the literature about CPD. The information in this chapter is organized around and related to the research questions as discussed in Chapter 1. The first part of this chapter begins with the definitions and the purposes of CPD for teachers and other professions. The second part of this chapter focuses on the debates of CPD, the CPD requirements in the teaching profession across different

countries, and the CPD requirements for other professions in the UK. The final part of the chapter reviews the types and characteristics of effective CPD for teachers and ways for evaluating CPD. Together, all parts in this chapter provide the background and justification for this research's investigation.

3.2) The Definition of CPD

Continuing professional development (CPD) has become very important in recent years across many professions for improving the quality of work and outcomes for client groups. CPD is compulsory and part of the code of practice of many professions, including accountancy, medicine, nursing, and other health professions and social work in the UK. CPD is also compulsory for teachers in half of the countries in the European Union and many of the states in the USA (Eurydice, 2003).

Within organizations, professionals are being challenged to meet the rising expectations to improve their knowledge, skills, and abilities and stay up to date. They are expected to engage in ongoing improvement through continuing professional development. Friedman, Davis and Phillips (2000) reported that 68 of 102 professional bodies they surveyed in UK had a CPD policy, and 55 or 81% of those with a policy published a definition of CPD (cited in Friedman & Woodhead, 2008).

There are a variety of definitions of continuing professional development across the professions. Some define it as a mode of education and/or learning, some as an activity in itself, and some as an approach (Friedman & Phillips, 2004). The following definition of CPD developed by the Construction Industry Council (CIC) in 1986 is the most commonly used in the UK (Friedman & Woodhead, 2008).

“The systematic maintenance, improvement and broadening of knowledge and skills, and the development of personal qualities necessary for execution of professional and technical duties throughout the individual’s working life” (Construction Industry Council, 1986:3 cited by Friedman & Woodhead, 2008).

While the CPD definition developed by the CIC was widely used in UK professional associations (40%) (Friedman *at el*, 2000 cite from Friedman & Woodhead, 2008), other professional associations have adopted other definitions of CPD. These definitions are varied and different from each other as follows:

The Department for Education and Skills (DfES) defined CPD as *“any activity that increases the skills, knowledge or understanding of teachers, and their effectiveness in schools”* (Bubb, 2004:3).

The Training and Development Agency for Schools (TDA) defined CPD as *“reflective activity designed to improve an individual’s attributes, knowledge, understanding and skills”* (Training and Development Agency for Schools, 2005.)

The General Medical Council (GMC) defined CPD as *“a continuing learning process that complements formal undergraduate and postgraduate education and training”* (The General Medical Council, 2006.)

The British Psychological Society (BPS) defined CPD as “*any process or activity that provides added value to the capability of the professional through the increase in knowledge, skills and personal qualities necessary for the appropriate execution of professional and technical duties, often termed competence*” (The British Psychological Society, 2006.)

The Health Professions Council (HPC) defined CPD as “*a range of learning activities through which health professionals maintain and develop throughout their career to ensure that they retain their capacity to practice safely, effectively and legally within their evolving scope of practice*” (The Health Professions Council, 2006.)

The definition of CPD offered by the United Kingdom Central Council for Nursing, Midwifery and Health Visiting (UKCC) is a “*set of standards and guidance designed to provide the best possible care for patients and clients, based on the need to keep up to date with new developments in practice and to think and reflect*” (The Nursing and Midwifery Council, 2008.)

The Engineering Council UK (ECUK) defined CPD as “*the systematic maintenance, improvement and broadening of knowledge and skills, and the development of personal qualities necessary for the execution of professional duties throughout working life*” (The Engineering Council UK, 2008.)

The Law Society Training Regulations of 1990 offer a definition of CPD as “*a course, lecture, seminar or other programme or method of study that is relevant to the needs and professional standards of solicitors and complies with guidance issued from time to time by the Society.*” (The Law Society, 2008.)

The Chartered Institute of Management Accountants (CIMA) defined CPD as “*The systematic maintenance, enhancement and continuous improvement of the knowledge, skills, and ability.*” (The Chartered Institute of Management Accountants, 2008.)

A definition of CPD taken from the Chartered Institute of Personnel and Development (CIPD) is “*a combination of approaches, ideas and techniques that will help you [the learners] manage your [their] own learning and growth*” (The Chartered Institute of Personnel and Development, 2008.)

As can be seen, the definition of CPD varies across the professions, however, the cornerstone is the continuous pursuit of knowledge and skills throughout the professionals’ careers. In a broad sense, CPD refers to the development of a person in his or her professional role after their initial training. It encompasses the process that professionals engage in to prepare themselves, continuously update themselves, and review and reflect on their own performance. In a specific term, CPD for teachers can be viewed as activities designed to improve professional performance of educators and their effectiveness in schools (Bailey, Curtise & Nunan, 2001; Blandford, 2000.)

3.3) The Purpose of CPD

Continuing professional development (CPD) has become part of the working life for many professionals in many countries. Friedman & Phillips (2004) identified several different purposes of CPD across many professional associations as:

- To gain career security
- To develop professionally
- To continuing in lifelong learning
- To assure the public that individual professionals are up to date
- To ensure that the standards of professional associations are being upheld
- To gather a more competent workforce

In most cases, the different purposes of CPD are associated with the variety of CPD definitions. Friedman & Woodhead (2008) gives an example of multiple purposes of CPD from a popular definition of CPD developed by the CIC (see page 48). As defined by the CIC, CPD is *“the systematic maintenance, improvement and broadening of knowledge and skills, and the development of personal qualities necessary for execution of professional and technical duties throughout the individual's working life”* (Construction Industry Council, 1986:3 cited by Friedman & Woodhead, 2008). Within this definition, Friedman & Woodhead (2008) identify three multiple purposes of CPD as:

1. to maintain knowledge, skills, and competence
2. to improve and broaden the knowledge and skills
3. To develop personal qualities necessary to execute professional and technical duties.

Friedman & Woodhead (2008) argue that a further aspect of the purposes of CPD relates to who is the intended beneficiary of CPD. The first purpose of CPD identified above contributes to the reputation of the profession and the professional body, as well as the general public good. The second purpose relates largely to the individual professional as the beneficiary. Finally, the third purpose benefits individual professionals, and in turn, impacts on clients and employers.

In the teaching profession, CPD for teachers serves many different purposes and is intended to benefit individual teachers, staff members, administrators, students, and the schools as a whole with the ultimate beneficiaries being pupils as a result of maintained or improved effectiveness. Craft (2000) identifies the purposes for teachers to undertaking CPD. These include, but are not limited to the following:

- To clarify the school's policy
- To make staff feel valued
- To promote job satisfaction
- To improve the job performance skills of the whole staff, groups of staff, or individual teachers
- To extend the experience of teachers for career development or promotion purposes
- To develop the knowledge, skills, and understanding of teachers
- To enable teachers to prepare for the changes and challenges
- To increase the effectiveness in the teaching and learning process

Shaha, Lewis, Donnell & Brown (2004) argued that the primary purpose of CPD is to help teachers become better teachers and educators. Continuing professional development is intended to equip teachers with new or refined skills and techniques for educating students effectively, and helping teachers themselves to be more confident, capable, and fulfilled. In addition, Day and Sachs (2004) summarized three common interconnected purposes of CPD for teachers, including *extension*, *growth*, and *renewal*. *Extension* is to introduce new knowledge or skills to teachers. *Growth* is to develop teachers to greater levels of expertise. *Renewal* is to transform or change the knowledge and practice of teachers.

Although the purposes of CPD vary widely, Craft (2000) and Guskey (2000) stated that the ultimate purpose of all CPD in a school is to improve the learning outcomes of the students. However, this may be considered a distal goal. In order to achieve it, CPD must have an effect on teaching, which is therefore a proximal goal (Guskey, 2000).

Continuing professional development (CPD) can be divided into two kinds: *professional education* and *professional training*. *Professional education* is aimed at enhancing the skills and aptitudes of participants by undertaking advanced studies at colleges or universities. *Professional training* is aimed at providing opportunities for participants to develop or extend knowledge and skills relating to daily work (Bezzina, 2006.)

The need for in-service and continuing training for teachers is widely promoted. Evidence of the use of CPD to attempt to improve the performance of teachers, improve the learning outcomes of students, and enhance teacher professionalism can be seen in the promotion of CPD provision by government agencies. For example, in England, the Training and Development Agency for

Schools (TDA) was established to raise the standards of teachers by improving the quality of initial teacher training (ITT) and CPD. The TDA is responsible to support provider of initial teacher training to provide trainee teachers the opportunities to acquire knowledge and skills, equip them for the classroom, and lay the foundations for their future professional development. The TDA has also developed a postgraduate professional development (PPD) programme which leads to a specific qualification. PPD courses are provided by partnerships of universities, higher education colleges, local authorities and schools across England. (Training and Development Agency for Schools, 2005.)

In addition to the Teacher Development Agency, the General Teaching Council for England (GTCE) has also been established and plays a major role in continuing professional development for teachers. The GTCE provides an opportunity for teachers to shape the development of professional practice and policy, and to maintain and set professional standards. Registration with the GTCE is a requirement for all qualified teachers working in a maintained school and non-maintained special school or pupil referral unit. The information held about registered teachers allows the GTCE to provide detailed advice to government on issues affecting the teaching profession, such as the effectiveness of different routes into teaching, Qualified Teacher Status (QTS) standards, and the training curriculum. The GTC also develops policy and supports Local Authorities (LAs) to strengthen the ways in which schools recognize and build on their capacity to deliver continuing professional development. Most of the continuing professional development support now comes within the school through Local Authorities and private training organizations (General Teaching Council for England, 2005.)

3.4) Debates on CPD

There are several issues associated with CPD in recent years. Cheetham & Chivers (2005) identified underlying three main debates over CPD, which they present as dichotomies. These are:

- 1) *Technocratic versus reflective practice approaches*: The technocratic approach sees CPD as the acquisition of new technical skills and regards CPD as a means of transmitting technical knowledge, while the reflective practice approach sees CPD as a process of reflection and self-evaluation and regards CPD as a facilitator of reflection. These two perspectives give rise to different views and approaches of CPD. However, there is no clear cut between which approaches would be most effective or most practical to deliver, and it may be argued that CPD programs require a combination of approaches (Cheetham & Chivers, 2005).

Caddigan & Pozzuto (2008) state that initial CPD programs are commonly based on models containing notions of what practitioners need to know and be able to do in order to practise effectively. Technical-rational models have been dominant throughout many years, however, they are seen as limited as the nature and context of professional work becomes more than technical and administrative problem-solving. The authors were more favourable towards a view for a reflective practice, as it allows the practitioners to make their own decisions based on the specific context rather than abstract theory. The outcomes that could be gained from reflection include new ways of doing something, the clarification of an issue, the development of a skills, and the resolution of a problem.

2) *Voluntary versus mandatory CPD policies*: Many professional associations have in place some form of CPD policy. Nevertheless, these differ widely in terms of their precision and rigour of enforcement. In the USA, a number of professions are required to be licensed, and have introduced periodic re-qualification in an effort to keep members' knowledge and skills up to date. In some professions in UK, CPD has become a legal requirement, for example, the medical profession and professions regulated by the Health Profession Council. Furthermore, some bodies with a royal charter (but are not regulated by law) also specify CPD requirements for continued membership. Without this, the professionals are unable to refer to themselves as "chartered". One example is the British Psychological Society's CPD requirement to remain eligible to use the descriptor "chartered psychologist". However, other professions in the UK leave it to individual practitioners to identify their own development needs and then undertake CPD as they appreciate (Cheetham & Chivers, 2005).

French & Dowds (2008) stated that there has been much debate about whether CPD should be mandatory or voluntary. An argument in favour of mandatory CPD is to assure the public that the professionals are up to date, and maintain or improve their competence. However, the counterargument is that there is no clear evidence that mandatory CPD would improve professional competence or change their practice. They also argue that mandatory CPD takes away their choices to decide their own educational needs, and is in conflict with adult learning concepts of self-direction and self-motivation.

3) *Input versus Outputs*: There is also a debate about how to measure and accredit CPD; whether to be based on the time spent for CPD or to be linked to the benefits or outcomes of CPD. Many U.K professional bodies have measured CPD participation in terms of inputs. Only a few have adopted output or competence based approaches due to the difficulties in specifying and assessing the outputs of CPD (Cheetham & Chivers, 2005).

Friedman & Woodhead (2008) report that the most common input schemes have been to specify a number of CPD hours per year or a number of CPD hours over a longer time period with a minimum per year. Some professional bodies limit what counts as CPD, while the others allow individual professionals to count informal activities such as reading journals or other forms of private study. A further development of input based systems is to convert CPD hours into points, where some activities can be counted for more points than the others.

There is an argument that the input-based measurement of CPD has been considered inadequate because it cannot indicate whether individual professionals have learnt or changed their behaviour, or whether there is an impact of the CPD on the organization or client. Nevertheless, the advantages of an input-based measurement are that it is easier to quantify than an output-based approach, it is cheaper to implement, and does not require a high level of resources to maintain (see above).

While the major advantage of an output-based approach is that it can measure the learning outcomes or competence developed as a result of CPD, there are some limitations to measuring CPD by the outputs. Friedman & Woodhead (2008) report that the disadvantages of measuring CPD by an

output-based approach are the difficulty of defining what the outputs are to be measured, the difficulty to measure accurately, and the greater requirements of time and resources to implement.

Both input and output approaches have advantages and limitations. The use of either input or output-based approach to measure CPD depends greatly on the various purposes of CPD identified by the professional bodies. Consequently, either an input or output approach is applicable to the professional bodies if they find it more convenient and appropriate to their needs (see above).

Professional associations put considerable effort to encourage their members to engage in CPD. However, their approaches, policies, and modes of CPD measurement vary and there is little agreement on which approaches are the most effective. It is suggested that CPD requires a combination of approaches whether technocratic or reflective practice approaches to development, or inputs or outputs modes of measurement.

3.5) Provision of CPD

There has been a significant increase in the level of interest and support for CPD throughout the world. Evidence includes the extensive literature of research reports, documents, and essays concerning continuing professional development as well as educational reforms that include a component of continuing professional development as one of the key elements in the change process (Bredeson, 2002.) The research literature has argued that professional development is an essential component of successful school level change and development. It also suggests that professional

development can impact directly upon improvements in student learning and achievement (Goodall, Day, Lindsay, Muijs & Harris, 2005.)

Continuing professional development (CPD) is increasingly considered a professional duty for teachers in many countries. Many countries are now encouraging teachers to undertake CPD for the purpose of improving the quality of education.

1. *England*: The General Teaching Council for England (GTCE, 2008) is the professional body for teaching in England. The GTCE encourages an opportunity for teachers to develop professional practice and maintain and set professional standards. All qualified teachers are required to be registered with the GTCE. There are approximately 530,000 teachers on the register currently. However, even with the establishment of GTCE, there is no suggestion for mandatory CPD requirements. Hustler (2003) conducted a large scale survey of about 2,500 teachers in primary, secondary, and special schools in England to establish teachers' previous experiences of CPD, their current attitudes towards it and their future expectations. The author concludes that most teachers were satisfied with their CPD over the previous five years. They felt that the principal drivers of CPD had been school development needs and national priorities and these had taken precedence over individual needs. The content of CPD had mostly focused on teaching skills and subject knowledge. Although the most common perceptions of CPD varied according to schools, the types of CPD that most teachers experienced were short courses, conferences, or in-service days. Only few teachers took part in CPD activities such as research, secondments, and award bearing

courses or international visits. Barriers of access to CPD for teachers were financial costs, distance, and workload. Also, Eurydice (2008) reported that it is compulsory for schools in UK to have a CPD plan for their teachers as part of the school development plan. The amount of CPD required in the UK was over 30 hours per year.

2. *USA*: Barlow (1999) reported that CPD in the USA is a matter for individual states. The majority of the states (42 states) have mandatory requirements for CPD. The National Association of State Directors of Teacher Education & Certification defined CPD as “*any course work, experience, training or renewal activity required by a state to maintain the validity of a certificate*” (Barlow, 1999: 45.) The National Education Association (NEA, 2003) reported that teachers nowadays have greater opportunities for CPD than in the past. In the US, CPD is subject to a strict regulation which is linked to continuing registration and career advancement. The NEA argued that teachers are taking advantage of the opportunities to enhance their teaching through CPD. The type of CPD undertaken includes courses, workshops, conferences, seminars, graduate courses, research, mentoring, and service on specialist committees.

3. *Australia*: In Australia, there is no mandatory requirement for CPD, but there is an increasing expectation for teachers to undertake CPD (Cheetham & Chivers, 2005). In Australia, CPD has been defined as “*designated to facilitate positive change in the education system and in the theoretical and practical knowledge and attitudes of individuals*” (Egan & Simmonds, 2002.)

Egan & Simmonds (2002) argue that the amount of time for CPD is not specified in Australia, but the need for CPD for teachers is identified through monitoring and planning procedures. The provision of CPD comes from many sources such as universities, private providers, and government body. Ling and Mackenzie (2001) outline the different forms of CPD that have been taken by teachers in Australia. Some are in-house programmes, while others draw upon outside experts or co-operative ventures with higher education institutions or outside bodies. Most teachers attend conferences and seminars and large subject association conferences are held annually. Other opportunities also include co-ordinated leadership programmes, action research projects and short courses. Many teachers felt that CPD was system driven and that effective CPD depends largely on the length (long term), content, and its organization.

4. *Scotland*: The General Teaching Council for Scotland (GTCS, 2008) is the regulatory body for the teaching profession in Scotland. The GTCS is responsible to maintain the register of teachers, enhance teaching standards, and promote the teaching profession. The GTCS requires all teachers for a contractual commitment to undertake 35 hours of CPD per year. There are a wide range of CPD experiences, such as reading, attending conferences, and courses that are on offer. Egan and Simmonds (2002) argue that the type of CPD in Scotland relies mainly on school based consultancy, short courses, and higher education degree courses. The definition of CPD in Scotland has been identified as *“a process whereby teachers may be helped to become more professional through learning to improve their expertise in what they already*

do or about developing new knowledge and skills and/or new learning and teaching strategies” (Egan & Simmonds, 2002: 28). Purdon (2004) believes that Scotland has seen a structured framework of CPD as being important step forward for the teaching profession. The reasons for undertaking CPD are to make the teaching profession comparable with other professions already engaging in systematic CPD, to provide an enhanced career structure, to address current inequalities in access to professional development opportunities; and to support teachers in being able to adapt to change.

5. *Malaysia:* Egan & Simmonds (2002) reported that Malaysia is seen as a leader among developing countries in providing CPD opportunities for the teachers. In Malaysia, CPD is defined as *“the process by which teachers acquire the knowledge and skills essential to good practice at each stage of a teaching career”* (Egan & Simmonds, 2002: 21). There are no requirements and no expectation to record CPD. Among the in service courses that teachers have participated in are short-term courses, which focus on educational management, implementation of new strategies, teaching techniques, and curriculum developments.

The concept of CPD is maturing both in the United Kingdom and internationally. CPD has been formally recognized in many countries, while in others it is at a more embryonic stage of development. The requirement to undertake CPD varies from country to country. While there are many cases where CPD is voluntary, there is a growing tendency that CPD is a requirement and connected to appraisal, career progression, and continuing registration as a teacher.

All listed countries above defined CPD as the development of skills and knowledge for teachers. Although teachers in these countries reported that they are often involved in the traditional types of CPD such as conferences and workshops, teachers, especially in developed countries, are increasingly becoming involved in a variety of CPD opportunities and reformed types of CPD. The requirement to undertake CPD ranges from no mandatory requirement to a strict regulation. The amount of CPD required also varies: it may be specified or left to individual teachers and the schools to decide.

3.6) CPD for Other Professions

Continuing professional development (CPD) is becoming increasingly important to all professionals. It is considered to be a necessary method to enhance individual professional skills and improve their competence. All professionals are increasingly recognizing the benefits of CPD. The undertaking of CPD would be regarded as either voluntary or mandatory, and may be recorded and policed accordingly. The CPD Certification Service (1999) reported that the amount of time and effort expected to be involved in CPD duties differ across all professions. The average time for CPD in their study was 35 hours per annum. However, this was regarded as an acceptable minimum and most professions required more time on CPD, usually 70 hours or the equivalent of almost 9 working days.

The CPD Certification Service (1999) suggested that there were over 300 institutions, societies, and organizations in the UK that had CPD policies for their members at that time. The majority of institutions set targets for their members to achieve; some institutions expected their members to achieve targets set as hours, some as points, and some as credits or merits. In order to consider CPD in other

professions in UK, this section summarizes the leading professions, each have a single regulatory body and a number of profession associations.

- 1) *Medicine*: The regulatory body for the medical profession is the General Medical Council (GMC). The GMC has a statutory role to promote high standards and co-ordinate all aspects of medical education as well as continuing professional development. The GMC recommends that undergraduate curricula should develop the knowledge and understanding, attitudes and skills that will promote effective lifelong learning and professional development throughout a doctor's career (The General Medical Council, 2008.) The GMC consider that CPD is a systematic process of lifelong learning and professional development to enable doctors to maintain and enhance their knowledge, skills, and competence for effective practice. The GMC argue that CPD is an important concept and has always been a feature of effective medical practice. All doctors must be involved in different types of CPD activities to maintain and improve their practice. The type of CPD which should be undertaken is not stipulated by the GMC, however, GMC suggest examples of the CPD opportunities for doctors, such as yearly appraisal, job shadowing, involvement in clinical and professional supervision, attending multidisciplinary team meetings, visiting centres of excellence, mentoring, and learning from patients. The GMC now require documented proof of CPD activity as part of the evidence for appraisal and revalidation. All doctors are now required to undertake CPD for good practice and for the purposes of annual appraisal and revalidation. The recording of CPD is closely linked to the revalidation folder which provides a

continuous record of practice, including steps the doctor is taking to stay up to date and to develop professionally (The General Medical Council, 2008.)

Williams, Kite, Hicks, Todds, Ward & Barnett (2006) conducted a survey to establish whether doctors had fulfilled their CPD requirements in the year 2001-2002 and to identify problems or difficulties experienced by doctors in undertaking CPD. The results reveal that many doctors are over worked, and lack time, and had identified in the survey as being a barrier for accessing continuing medical education. Difficulties were reported with the planning, participation and in the recording of CPD and many doctors appeared to lack awareness of the CPD requirements. Successful CPD, they argued, is an essential component of medical practice and requires adequate time, awareness, appropriate funding, and educational opportunities in order for doctors to fulfill their requirements. Their study, however, indicated that these doctors were often not able to enjoy facilities.

- 2) *Psychology*: The British Psychological Society (BPS, 2008) currently has a mandatory requirement for chartered psychologists to undertake and maintain a record of their CPD. Although this is changing as the BPS loses its role and the Health Professions Council becomes the statutory regulatory body, expected later in 2009. The Society argues that there are two major purposes of CPD for psychologists: to continue up to date and improve professional expertise, and to reassure the public. Examples of CPD opportunities specified by the BPS are attending a training course, receiving or conferring professional supervision, undertaking peer group discussion, receiving time to reflect on practice, reading relevant journals and books, and undertaking a

post-graduate diploma. The BPS audits a random selection of members' CPD logs and advises members on planning, recording, and reflecting on their CPD. It was the intention of the BPS to introduce sanctions for members who did not meet the CPD requirements. However, the monitoring of CPD for psychologists will be undertaken by an independent regulator in the future (The Health Professions Council), as stated above, and the BPS have therefore decided not to introduce any sanctions (The British Psychological Society, 2008.) However, a failure to show evidence of keeping up to date and competent may be an important factor that the Society might take into account if a complaint is made about a psychologist who is a member of the BPS (Lindsay, personal communication.)

3) *Physiotherapy*: French & Dowds (2008) state that CPD in physiotherapy includes and builds upon areas of personal and professional development that begins from commencement of undergraduate education. It incorporates both clinical proficiency and non clinical activities, such as information technology, management, leadership, and communication skills. The concept of CPD became apparent in 1970s after the realization that undergraduate education did not fully prepare an individual for working life or imply lifelong competence. The ultimate goal of CPD in physiotherapy is to better deliver patient care and improve health care for the public (French & Dowds, 2008).

Continuing professional development (CPD) is an essential role for the physiotherapist to ensure high quality delivery of patient care. Physiotherapists working in the National Health Service (NHS) must be registered with the Health Professions Council. The Health Professions

Council (HPC, 2008) is a professional body, which oversees and regulates the education and CPD of health related professional who are regulated by the Council. The HPC was created to protect the public, and took steps to make CPD a requirement to practise. They set standards for mandatory CPD and consider that CPD is an important part of continuing registration.

Continuing professional development (CPD) for physiotherapists comprises a range of formal and informal activities, as is also the case for all health professional registrants with the HPC who must undertake CPD to stay registered. They must be engaged in CPD activities and keep a record of their CPD, but there may take many forms, depending on the purpose. CPD activities allowed by the HPC could include work based learning (for example, discussions with colleagues, peer review, reflective practice, and secondments), professional activity (for example, mentoring, supervising research, and giving presentations at conferences), formal education (for example, attending courses or seminars, doing research, and taking further education), and self directed learning (for example, reading articles, reviewing books, and updating knowledge through internet) (HPC, 2008).

French & Dowds (2008) report the results from two studies that the CPD activities of in service training courses, clinical training, and clinical supervision were perceived to be the most highly effective CPD activities for the physiotherapists. On the other hand CPD activities including student supervision, clinical interest group membership, management training, reading journals, conferences, and literature searching were seen as less likely to be effective. The authors also stated that both studies, however, were limited by small sample sizes and confinement to only one physiotherapy setting.

The Health professions council (HPC) reported that CPD is the way health professionals continue to learn and develop throughout their careers so they keep their skills and knowledge up to date and are able to work safely, legally, and effectively. Their CPD scheme is based on an ongoing learning and development, and focuses on the individual's learning achievements and how these have been reflected in their clinical practice and service delivery, either directly or indirectly (HPC, 2008). The total NHS spending on CPD was £1 billion in 1999-2000 in the UK, while spending approximately £13.4 million on CPD for nurses and allied health professionals in 2003-2004. This huge financial investment is regardless to any evidence on the cost effectiveness of the different modes of CPD (French & Dowds, 2008).

- 4) *Nursing*: CPD is also a core requirement for continuing registration for nurses. The Nursing and Midwifery Council (NMC, 2008) requires all registered nurses to re-register every three years, and to have undertaken the equivalent of five days (or 35 hours) of CPD during the previous three years. Registered nurses are also expected to maintain a portfolio, so that the NMC can check their CPD experience when they apply to re-register. Recording of achievement is part of the mandatory requirement of CPD. Allowable forms of CPD are specified to include case studies, community nursing and health visiting, attending lectures or evening courses, and job shadowing (The Nursing and Midwifery Council, 2008).

Gould, Berridge & Kelly (2007) state that opportunities for nurses to engage in CPD are usually provided through in service training, modular courses or reading. Although reflective practice is viewed as a key component

of CPD by many professional bodies, it was not seen as effective in nursing, where less than 20% of UK nurses identified reflection as a method to improve their practice (French & Dowds, 2008).

There are considerable barriers to attendance of CPD for many nurses even when suitable programs of CPD exist. Research studies exploring CPD and levels of attendance for nurses have shown that those who work permanently at night or part-time are much less likely to attend to the activities. This situation is a cause for concern given the need of flexible working hours (Gould, Berridge & Kelly, 2007.)

- 5) *Engineering*: CPD is essential for engineers and technicians throughout their working life. The Engineering Council UK (2008) has a strong requirement for registrants to maintain and develop their professional competence and knowledge. All engineers and technicians are responsible for managing their continuing development, and are required to take appropriate action to update and enhance their professional competences. The ECUK established a framework of requirements for CPD, facilitates and supports good practice, and represents their interests on CPD and lifelong learning matters. The opportunities for CPD specified by the ECUK include in house courses, external courses, work based learning, distance learning, private study, attendance lectures and seminars, coaching, mentoring, secondments, and relevant voluntary work. Recording CPD in a Professional Development Record is a basic requirement. Members must be able to show suitable evidence of their CPD activity, a record of development achievements, evaluation and review. They must also demonstrate that they have supported

the learning of others through acting as mentor or sharing professional knowledge and expertise (The Engineering Council UK, 2008).

6) *Law*: It is a requirement for all solicitors to fulfil CPD requirements specified by the Law Society. The Law Society (2008) requires all solicitors to undertake CPD for at least 16 hours on an annual basis. The types of CPD recognized include face to face sessions, distance learning, coaching, mentoring, and production of research. It is also a requirement that solicitors record their CPD activity. The Law Society provides members with a training record form and a worked example. Members are encouraged to keep this record as the development takes place.

7) *Accountancy*: The Chartered Institute of Management Accountants (2008) is one of the accountancy bodies in UK and across other countries. Within the UK, the CIMA is responsible for providing regulation and standards of the members of an organization. CPD is mandatory and members are required to maintain their performance and competence on a daily basis in their job role, and are encouraged to plan their career 3-5 years ahead. They also need to maintain a record and be prepared to submit their development record if needed. The record must be kept for 3 years, and can be maintained through on-line or by other means to suit the individual. The amount of time required for CPD is 30 hours a year plus professional reading to underpin these hours. The list of CPD activities suggested by the CIMA are work based learning, on the job training, academic and professional qualifications, conferences, reading reports, on line learning, coaching, structured training courses,

research, discussion groups, and net working. The CIMA also provide online resources as a career planner, news and information service, a business journals, and management development tool to support members in their CPD activities.

- 8) *Business*: Unlike the previous professions, there is no statutory or chartered body with responsibility for business professionals. Individuals who engage in CPD can maintain their competence and develop the knowledge and skills needed to adapt to changing business and provide good service for clients. Hoban & Erickson (2004) suggests that every individual needs opportunities to extend their skills and expertise through an effective CPD program. Action learning is now a commonly used approach in business contexts to assist groups of individuals to improve their work practices through reflection, collaboration and action. The distinctive feature of action learning is that small groups of participants work together to address work related issues and to produce the most appropriate plan for action.

The reviewing of CPD among different professions indicates some similarity, particularly the reasons to undertake CPD, the suggested types of CPD, and the requirement that CPD is recorded. The differences across professions are likely to be found in terms of the time required, and whether CPD is mandatory or obligatory. Most professions recommend their members to engage in and record CPD. They have recognized the benefits of CPD and have made CPD compulsory. They encourage CPD because society has driven the need for knowledgeable competent people. Therefore, engaging in CPD is a fundamental part of the system to ensure the

reliability of the services that professionals offer to the public. Most members of many professional bodies are being required to undertake CPD to keep themselves up to date and maintain or enhance their professionals skills. A commitment to CPD throughout a working life is essential for all professionals.

3.7) The Types of CPD for Teachers

Continuing professional development (CPD) is a collection of activities offered in response to serve the needs of teachers and school staff members, as well as government, school improvement initiatives, accreditation requirements, and funding agencies (Pritchard & Marshall, 2002). The majority of teachers in England and in others countries such as USA, Australia, and Scotland have reported having experiences of various types of CPD activities. There are many possible sources of CPD, including the school itself, school networks, and other external providers, such as Local Authorities (LAs), colleges, universities, and private sector providers. These providers offer many different types of CPD activities. There is evidence that the CPD activities that most teachers experience depend on the schools and LA in which they work (Bolam, 2000; Hustler, 2003).

Friedman and Philips (2004) indicate that CPD activities are often perceived as formal training courses linked to work or gaining a qualification. However, the new concept of CPD is one that moves away from attending courses and training days to all forms of teachers' professional learning on a continuing basis. Fraser (2005) also holds a similar view that CPD includes any activities that teachers engaged in to develop professionally. It incorporates a broad range of learning experiences, both formal and informal learning. These learning experiences of CPD can range from personal learning such as private reading to attending courses organized by the LA.

Clark & Hollingsworth (2002), Ling & Mackenzie (2001), and Craft (2000)

propose several types of CPD for teachers. These include:

- self directed study
- workshops, seminars, short courses
- coaching, mentoring, or tutoring
- job shadowing
- networking
- collaborative learning
- action research
- personal reflection
- distance education
- professional learning teams
- observations
- portfolios
- information technology mediated learning

Lieberman (in Goodal *et al*, 2005) further classified CPD into three settings in which teachers' learning may occur: *direct teaching* (e.g. conferences, courses, workshops, consultations), *learning in schools* (e.g. peer coaching, action research, working on tasks together), and *learning out of the classroom* (e.g. reform networks, school-university partnerships, professional development centres.) Day (1999) also adds *learning in the classroom* (e.g. student responses) as a fourth setting of possible learning opportunities for teachers. These four settings provide a comprehensive

insight that teachers can acquire CPD through a variety of ways; on the job training, at home, and in the classroom/workplace.

Kennedy (2005) suggested that CPD activities can be categorised as *transmissive*, *translational* or *transformative* according to their purposes and effects on teachers' practice. He identified nine models of CPD which are not mutually exclusive and provided critical appraisal. They comprise:

- 1) *The training model*: The training model is universally recognized and has been the dominant form of CPD for teachers. This model is delivered to the teacher by an expert and places teachers in an inactive role to gain knowledge. The training model is currently criticized for the lack of connection to the classroom context in which participants work.
- 2) *The award bearing model*: This model of CPD is one that relies on the completion of award bearing programs of study that is validated by universities. This external validation can be seen as a mark of quality assurance, but equally can be seen as the exercise of control by the validating and/or funding bodies.
- 3) *The deficit model*: The deficit model uses CPD to attempt to redress the perceived weaknesses in individual teachers.
- 4) *The cascade model*: This model involves individual teachers attending training events and then pass on their experiences to their colleagues. The cascade model is employed by a group of teachers as a means of sharing their own learning with their peers. It is regularly used in organizations where there are limited resources.

The only restriction of this model is that what is passed on in the cascading process is generally skills focused or knowledge focused, but rarely focuses on values.

- 5) *The standards based model:* The standards based model of CPD represents a desire to create a system of teaching, and teacher education, that can generate experimental or practical validation connected between teacher effectiveness and student learning. It also relies heavily on a behavioural perspective of learning, focusing on the competence of individual teachers and resultant rewards at the expense of collaborative and collegiate learning.
- 6) *The coaching/mentoring model:* The characteristic of this model is to concentrate on one to one relationship, generally where one partner is a new learner and the other is more experienced. The key to this model is the notion that professional learning can take place within the school context and can be enhanced by exchanging information with their colleagues.
- 7) *The community of practice model:* This model involves more than two people in the collaborative ways. The successful community of practice has developed as a formal and direct relationship between practising teachers and teacher educators. The existence of individual knowledge and the combinations of several individuals' knowledge are the important sources for the creation of new knowledge.

- 8) *The action research model:* The action research model is the study by the individuals themselves as investigators to improve the quality of their action. The quality of action can be comprehended as the participants' understanding of the situation, as well as the practice within the situation. Kennedy (2005) argues that this model of CPD has been acknowledged as being successful to allow teachers to ask critical questions of their practice.
- 9) *The transformative model:* This model of CPD involves the combination of a number of processes and conditions that are drawn from various models. The transformative model is not a clearly describable model in itself, because it recognizes the varieties of different conditions required for transformative practice. The key characteristic of the transformative model is its effective amalgamation of the range of other models, together with a real sense of awareness of issues of power.

The models described above are delivered to meet the needs of the individual teachers and the demands from outside the school system. An effective CPD is one that matches the needs to the appropriate activities. Stakeholders who seek a product based outcome would tend to adopt a *transmissive* model, whereas those who seek a process oriented approach would be more likely to adopt a *transformative* model. Additionally, teachers who seek high quality, practical, and relevant CPD would be more likely to engage with the translational model (Kennedy, 2005).

As illustrated above, the range of activities that can be considered as CPD is extremely wide. Any activities that teachers undertake in order to develop their professional competence can be counted as CPD. However, Bolam (2000) and

Hustler (2003) indicate that the most common forms of CPD that teachers experience are workshops, seminars, conferences, and short courses. The less widely used modes of CPD include supervised research, sabbaticals, practice review, and self help groups. These activities are less common due to the amount of effort and time involved for the individual to arrange and to undertake CPD.

Goodall *et al* (2005) report a large scale study of in depth interview and surveys of teachers in England. A total of 180 interviews were conducted with headteachers, CPD leaders, heads of department, main scale teachers, newly qualified teachers, and teaching assistants from a wide range of schools. Questionnaires were also sent to CPD providers, and CPD leaders and teachers in 1,000 random selected schools in 2003. Responses to the questionnaires were received from 223 CPD leaders, 416 teachers, and 65 providers respectively.

Goodall *et al* (2005) show different types of CPD that are usually offered by CPD providers such as HEIs, LEAs, and Consultants in a national survey of England schools. Responses to the survey were received from 23 HEI providers, 18 LAs, and 24 independent consultants. The sample of HEIs was collected from HEI education departments, and was selected as consisting of all HEIs providing some form of CPD to teachers. All LAs and private consultants were identified through the Education Yearbook as providing CPD. The authors indicate the percentage of respondents in each group of CPD providers that offer each type of CPD as shown in the Table 3.1

Table 3.1: Types of CPD provided by CPD providers (%)

	HEI				LA				Consultants			
	often	Some times	rarely	never	often	some times	rarely	never	often	some times	rarely	never
Conferences	19	67	14	0	71	24	6	0	25	45	20	10
Single workshop	10	57	19	14	83	17	0	0	30	46	12	12
INSET days	5	62	19	14	71	29	0	0	35	35	15	15
Short training programme	14	45	27	14	78	22	0	0	37	42	16	5
Coaching	12	18	29	41	23	71	6	0	11	28	33	28
Classroom observation	30	20	35	15	47	41	6	6	22	26	26	26
Mentoring	50	35	5	10	18	82	0	0	21	37	26	16
Dept/ KS meetings	10	35	35	20	44	33	22	0	6	19	31	44
Staff meetings	10	26	32	32	41	29	29	0	6	59	0	35
Series of workshop	11	68	21	0	50	50	0	0	25	50	10	15
Extended training programme	17	50	17	17	33	50	6	11	16	22	6	56
Secondment/ sabbatical	0	25	38	37	11	33	33	22	0	0	7	93
HE courses	91	5	4	0	12	44	25	19	6	13	25	56
BPRS	0	50	31	19	13	44	12	31	6	0	0	94
School – Uni partnership	64	23	9	4	12	35	47	6	0	6	0	94
Learning network	26	47	16	11	47	53	0	0	11	11	22	56
Action research	63	37	0	0	37	50	13	0	11	26	21	42
Beacon school offerings	6	12	35	47	29	41	12	18	0	7	7	87
Specialised school offerings	6	29	35	30	29	35	18	18	7	13	20	60

Source: Goodall et al. (2005)

Note: BPRS: Best Practice Research Scholarship

As shown in the table, the three types of CPD providers differ in the types and forms of CPD they offer. The most common type of CPD that was “often” provided by HEIs was HE courses (91% “often”). The least common types of CPD that were “never” provided were secondment/sabbaticals (37% “never”), offerings to Beacon schools (47%) and to specialized schools (30%). The most common types of CPD that were “often” provided by LAs were single workshop (83%), short training programmes (78%), conferences (71%), and INSET days (71%). The least common types of CPD that were “never” provided were Best Practice Research Scholarships (BPRS: 31% “never”), secondments/sabbaticals (22%), HE courses (19%). Similar to LAs, the most common types of CPD that were “often” provided by consultants were short training programme (37% “often”), INSET days (35%), single workshop (30%), and conferences (25%). The least common types that were “never” provided were School-University partnership (94% “never”), BPRS (94%), and secondments / sabbaticals (93%) respectively.

Clarke & Robson (2005) also carried a survey in Scotland. They surveyed a selected sample of 8,000 teachers of the Scottish teaching profession. They reported similar results of the CPD types that teachers had experienced. Table 3.2 shows the percentage of respondents who had experienced CPD activities and the effectiveness of each CPD activity during the previous two years. The effectiveness rating presented in the table is calculated by averaging the respondent ratings, which are presented on the scale range where an effectiveness rating of 1.0 means very good and 5.0 means very poor.

Table 3.2: Types of CPD reported by teachers (%)

Type of CPD Activity	% Respondents Undertaking	Effectiveness Rating
Short Course	98.5	2.1
Collaborative Working – Face to face	78.8	1.7
Collaborative Working – Distance	27.3	2.1
Research	63.6	2.0
Personal Study	86.4	2.0
Placements	10.6	1.6
Secondments	16.7	1.5
Exchange	7.6	1.4
Study Visits	31.8	1.8
Conferences	60.6	1.9
Award Bearing Course/Module – face to face	39.2	2.0
Award Bearing Course/Module – distance	25.8	2.0

Source: Clarke & Robson (2005)

As can be seen, the three most common types of CPD undertaken by teachers in this study were short courses (99%), personal study (86%), and face to face collaborative work (78%) respectively. The least common types of CPD activities were exchange, placements, and secondments. Most teachers were satisfied with their CPD. They rated the effectiveness of CPD from 1.4-2.1 (on a scale of 1.0-5.0) with exchange (mean effectiveness 1.4) judged the most effective for all types of CPD.

Both the Goodall et al. (2005) and Clarke & Robson (2005) studies reported that most common types of CPD undertaken by teachers were the traditional approaches as short courses or single workshops. Few teachers took part in CPD

activities such as research, secondments, award bearing courses or study visits, but these were highly valued by participants as Clarke & Robson demonstrate by effectiveness ratings of the types of CPD responded by teachers in Table 2.

Teachers need a wide variety of professional development opportunities (Craft, 2000.) For many years, the popular form of professional development available to teachers was workshops or short courses that would offer teachers new information on a particular aspect of their work as shown above. This type of training has been argued to be ineffective because it is unrelated to the teachers' work (Desimone, Porter, Birman, Garet & Yoon, 2002.) However, for the past few years, professional development has been considered a long-term process that includes regular opportunities and experiences planned systematically to promote growth and development in the profession. This shift has been so dramatic that many have referred to it as a new paradigm of professional development (Desimone et al, 2002.)

Some CPD activities are perceived as being more effective than others, some are practised daily and others less frequently and some are undertaken for individual motivation and others for the good of organizations. Boyle and Lamprianou (2006) studied the 'traditional' and 'reform' types of professional development that have been identified in the literature. Their study comprised annual surveys (2002-2004) so allowing an examination of trends. The sample in their study consisted of heads of department or key stage coordinators of English, mathematics, and science across primary and secondary schools in England. They reported that science teachers were less likely to participate in professional development activities compared to their English or mathematics colleagues in 2002. No science teachers reported undertaking professional development within their LA in 2002. The number of teachers who reported undertaking CPD increased slightly from 13% in 2003 to 15% for all

teachers in 2004. In 2004, none of the sample of science teachers reported participation in professional development workshops of two days or more duration supplied by their LA, while 10% of mathematics teachers reported such participation. Workshops of a longer duration (two or more days) appear almost to have disappeared as a model of within-school subject professional development. Only 5.6% of English teachers, 1.5% of science teachers, and 0% of mathematics teachers had taken part in any workshops of two days or more within school in 2004 according to the study.

Boyle and Lamprianou (2006) also reported that throughout the first three years of the survey, observation of colleagues had been the most common type of longer-term CPD activity reported by their sample (67% in 2004) across all three subject areas. Coaching was reported as an increasing model of longer-term professional development activity by 20% of English teachers. Coaching seemed to be a more popular type of professional development in English departments than in mathematics (10%) or science (11%). Networking doubled in percentage participation for both mathematics (16% in 2002 to 32% in 2004) and science (14% in 2002 to 28% in 2004) teachers. Sharing practice participation remained high and rising in English (67% in 2002 to 75% in 2004), but dropped in percentage for both mathematics (64% in 2002 to 53% in 2004) and science (59% in 2002 to 51% in 2004.) Furthermore, there had been an increase in the percentage of teachers reporting involvement in a study group. In mathematics, the percentage response had risen from 4% in 2002 to 21% in 2004, while 11% of English and 8% of Science teachers also recorded increases over the period of time. Boyle and Lamprianou (2006) concluded that the high percentages of participation in these types of professional development opportunities, such as sharing practice, networking, and

study groups, support recent research findings for the 'reform' types of professional development.

In summary, CPD comprises all activities that can lead to professional and personal development. The CPD activities are wide ranging, include a substantial range from reading to attending conferences and courses. Although the most common forms of CPD that most teachers experience are courses and conferences, different types of CPD activities should be undertaken when appropriate to the needs of the teachers.

3.8) The Model of CPD

In this section, I will discuss NCSL (National College of School Leadership) as a representation of a model of CPD provision. The discussion of the model of CPD provision by the NCSL is broken down into three headings as follows:

- 1) *Who drives CPD?* Current CPD provision is broadly driven by an individual, school, and Government levels, although the local authority may also have a role. At an individual level, each teacher takes responsibility for their own CPD. This leaves the teachers to make their own judgments and decisions as to when they need to attend CPD, and what types and content of CPD they need. At school level, the decision for teachers to attend CPD is decided by the schools as to who should attend and what type and content of CPD. The focus here is on meeting school needs and priorities. Finally, at government level, the decision to undertake CPD is made by the Government. CPD at Government level can either be voluntary or mandatory depending on professions. It may, for example, be a requirement for the professional remaining on a statutory register.

The National College of School Leadership (NCSL) is an example of a model of CPD that is driven by the Government. It has four key goals: to develop excellent school leadership to improve children's achievement and well-being, to develop leadership within and beyond the school, to identify and grow tomorrow's leaders, and to create a national college to offer school leaders more leadership support. The NCSL was launched in 2000 to encourage current and aspiring school leaders to consider their own CPD and career development. It is based at a learning and conference centre in Nottingham and is funded by the government (NCSL, 2009a).

The NCSL was established to serve school leaders and improve school leadership through the highest quality CPD. The NCSL Middle Leaders Project (2006) revealed that the annual reports of Her Majesty's Chief Inspector of Schools (HMCI) from Ofsted provide useful information about the effectiveness of middle leaders and a clear implication for training and support of school leaders. In 1995, for example, the HMCI report stated that one fifth of schools had weakness in middle management, and emphasized the need to develop middle managers by working with colleagues in classrooms. In 1996, the HMCI report stated that only half of subject coordinators in primary schools were effective. In 2004, the HMCI report stated that almost half of schools were doing well on monitoring and evaluation of the core subjects, but more than half of schools were poor in monitoring and evaluation of other subject areas (NCSL Middle Leaders Project, 2006).

In order to become a headteacher/principal, it is a mandatory requirement to hold the National Professional Qualification for Headship (NPQH). The NPQH is a professional qualification underpinned by the

National Standards for Headteachers, which prepare and develop CPD for teachers who wish to become leaders. The Government made NPQH mandatory in 1998. NPQH was developed and delivered by the NCSL since 2001. Unlike the GTCE, which is a statutory regulator body for teachers in England and which requires teachers to register annually, NCSL requires those who wish to become school leaders to attend practical “hands on” programs and experiences from a minimum of six months to two years (NCSL, 2009a).

2) *What is the focus/content of CPD?* The focus and content of CPD for teachers can be varied such as teaching techniques, classroom management, subject knowledge, communication skills, curriculum development, ICT skills, and so on. NCSL concentrates on the management and leadership skills of teachers and those who are taking on leadership and management responsibilities. The NCSL sees the importance of the CPD opportunities to all potential leaders and is available to serve the development needs of those who seek the leadership/management in the schools. The NCSL offers a wide range of programs concerned with leadership at different stages of a teacher's career. The programs are grouped under themes which reflect the needs of school leaders in different contexts and provide opportunities to carry out research, work with colleagues, coaches, and visit other schools (NCSL, 2009a).

There is evidence that those who are engaged in NCSL programs are more likely to achieve better results for their pupils. The rate of improvement in the percentage of pupils achieving five or more good GCSE grades for schools engaged with NCSL was over four times compared to non-engaged schools (NCSL Booklet, 2009b). Additionally, a research conducted by the

University of Nottingham has shown similar results that the programs from NCSL have had a significant impact on school improvement, achieve better outcomes for pupils, and more successful Ofsted inspections (NCSL, 2008).

Results from annual survey of school leaders conducted by independent research body EdComs for NCSL has shown that school leaders have a very positive perception towards the NCSL. It was reported that 95% of headteachers think that NCSL supports the development of future leaders, 91% of headteachers think that NCSL supports school leaders, 88% of headteachers have developed their leadership skills and knowledge, and 84% of headteachers have improved their personal development (NCSL Booklet, 2009b).

- 3) *How is CPD delivered?* There are many forms of delivery available for CPD. These can be formal study, action learning, networking, personal growth and development, mentoring, secondments, experiential learning, external learning, and attending events. The delivery of CPD by NCSL comprises a combination of activities in school, self study materials, school visits, training sessions, tutorials, and e-learning. The NCSL offer opportunities for school leaders to reflect on their own practice, work with colleagues, coaches, mentors, and carry out research and explore their thinking on school and children's services leadership at different levels (NCSL, 2009a).

NCSL has been researching and supporting the range of different models of school leadership. As a result it has developed content within the redesigned programs and increased emphasis on collaborative approaches. It is recognized that collaborations, groups, and networks of schools can provide

powerful learning environments for leaders and the workforce, and allow effective practice to spread throughout schools (Lindsay *et al.*, 2007; NCSL, 2009a).

Continuing professional development (CPD) is a feature available to members of many professions. In the teaching profession, CPD opportunities are not only available to teachers, but also available to headteachers, administrators, and school staff members. The NCSL is an example of a model of CPD provision that is driven by the Government to improve the school leaders. It has focused on the management and leadership skills of teachers and those who are taking on leadership and management responsibilities. There are many types of CPD deliveries offered by NCSL, but there is increasing interest in the use of collaborative approaches, reflecting patterns of school leadership such as federations.

3.9) The Effectiveness of CPD

Whilst it has been recognized that CPD can take many forms, there has been much debate on the effectiveness of different approaches in the literature on CPD. Boyle, Lamprianou, & Boyle (2005) claimed that certain types of CPD activities are more likely than others to offer sustained learning opportunities, provide teachers with sufficient time, activities and content necessary to increase knowledge and encourage meaningful changes in their classroom practice. These types of CPD activities include *study groups*, in which teachers are engaged in regular, structured, and collaborative interactions around topics identified by the group; *coaching* or *mentoring*, where teachers work one on one with an equally or more experienced teacher; *networks*, which link teachers or groups, either in person or electronically, to

explore and discuss topics of interest, pursue common goals, share information, and address common concerns; *and immersion in inquiry*, in which teachers engage in the kinds of learning that they are expected to practise with their students.

The national strategy for CPD in the United Kingdom strongly advocates the use of coaching, mentoring and peer-networking mechanisms to enhance teacher professional development and performance in schools (Rhodes & Beneicke, 2002.) Coaching, mentoring, and peer networking are complex activities deeply associated with the support of individual learning. These methods offer the potential benefits of raising teacher confidence, facilitating teacher learning, and embedding improvements in professional practice within the classroom (Rhodes & Beneicke, 2002). Li & Chan (2007) also describe the use of coaching as a means to enhance professional development of English-language teachers in a school. Teachers were found to be more likely to change their own instructional practices when coaches come into their classrooms and work together with them on some innovative instructional techniques. However, feedback on performance can affect teachers' confidence, damage learning relationships, and encourage teachers to have negative views on their own abilities. In this study, the feedback given to the teacher participants was not positive enough, resulting in teacher participants' loss of confidence.

Recent research has shown that some CPD activities now take the form of collaborative action research. Teachers who get involved in this type of activity can become more reflective, critical, and analytical when they think about their teaching style in the classroom (Boyle, Lamprinou, & Boyle, 2005). Campbell (2003) also explores the current context for the professional development of teachers in England and develops an argument for an approach to teachers doing research. Classroom research promotes teachers as practitioner researchers and teachers' research into

thinking, practice and professional development. The author supports the idea of teachers to engage in action research, practitioner research, collaborative inquiry, and teacher research in schools and classrooms in order to improve teaching and learning, to develop and refine the curriculum and teaching practice, and to innovate and evaluate their teaching. She argues that researching classroom and school contexts is a vital part of a teacher's professional development.

Table 3.3: Teachers' ratings of the quality of CPD

Quality of:	Poor (%)	Average (%)	Good (%)	Number of respondents
In-school development days	6	42	52	607
Workshops	4	36	60	521
Study groups	9	49	42	110
Mentoring	5	35	60	230
Research/enquiry	7	35	58	136
Coaching	5	45	50	80
Networks	11	36	54	200
Observation of colleagues	4	24	72	547
Sharing practice	3	22	75	547
Drop-in clinics	9	42	50	94
Courses (on-site)	6	34	61	325
Courses (on-line)	22	30	48	108

Source: Boyle, While & Boyle (2004)

A teacher survey from the US Department of Education in 1999 also found that collaborative professional development activities, such as common planning time, being formally monitored by another teacher, or networking are more effective than the traditional forms of professional development (Boyle, While & Boyle, 2004) Boyle *et al* also explored the perceptions of a representative sample of primary and secondary teachers in English, mathematics, and science, heads of the department and subject coordinators across England on the quality of the professional development. They show that the respondents rated the quality of the professional development they received as generally average to good. The highest rating of quality of professional development appears to be sharing practice, where 75% of the 547 respondents rated it as good. On-line courses appear to be the poorest quality of professional development, where 22% of 108 respondents rated it as poor (see Table 3.3).

Goodall et al. (2005) also evaluated teachers' perceptions of the effectiveness of different types of professional development in an English sample. The authors found that respondents rated the quality of the professional development they received as generally somewhat effective to highly effective. The most "highly" effective types of professional development were judged to be secondments/sabbaticals (54.3%) followed by informal networking with colleagues (49.4%) The "highly ineffective" types of professional development appear to be demonstration videos (7.3%) (See Table 3.4).

Table 3.4: Teachers' judgments of the effectiveness of different types of CPD (%)

Types	Highly ineffective	Somewhat ineffective	Somewhat effective	Highly effective	Never experienced this type of CPD
Conferences/lectures	1.5	6.9	74.1	17.5	11.6
Single workshops	0.8	5.8	69.6	23.8	1.8
Series of workshops	0.3	1.2	52.6	45.9	11.1
INSET days	1.3	8.7	58.0	32.0	0.0
Demonstration lessons	1.2	9.9	47.3	41.6	31.1
Coaching	0.0	11.8	50.3	37.9	45.7
Classroom Observation	2.2	11.4	50.4	36.0	3.5
Mentoring/Critical friendships	2.0	6.4	49.2	42.4	18.9
Job shadowing	2.0	5.2	57.2	35.3	50.3
Demonstration videos	7.3	36.3	51.8	4.5	6.1
Extended training programmes	0.8	8.9	61.8	28.2	28.8
Secondments/sabbaticals	1.2	7.4	37.0	54.3	66.9
Accredited HE courses/programmes	1.5	5.1	50.3	43.1	41.4
BPRS	0.0	8.8	64.7	26.5	69.2
School University partnerships	3.5	10.4	67.4	18.8	51.8
Learning networks with other schools	0.9	7.7	60.9	30.5	35.9
Practitioner research projects	0.0	12.6	54.1	33.3	58.8
Collaboration with other schools	0.9	8.4	60.4	30.0	35.6
Informal networking with colleagues	0.0	2.6	47.7	49.4	7.8

Source: Goodall et al. (2005)

There are many types of CPD activities that have been recognized as being relevant to the acquisition of knowledge. Researchers report evidence for certain types of CPD activities as being more effective than the others. These includes research, secondments, award bearing courses or study visits, coaching, mentoring, peer-networking, collaborative working, and so on (Boyle, Lamprianou & Boyle, 2005; Clark & Robson, 2005, Goodall et al, 2005; Rhodes & Beneicke, 2002.) James (2000), however, argues that there is no single form or model of professional development that is better than others. He suggests that schools and educators should evaluate their needs and practices in order to decide which professional development model would be most beneficial to their particular situation. Different factors within a workplace, such as school structure and school culture can influence the teachers' sense of efficacy and professional motivation. He quotes Guskey in support of his argument:

“The uniqueness of the individual setting will always be a critical factor in education. What works in one situation may not work in another... Our search must focus, therefore, on finding the optimal mix – that assortment of professional development processes and technologies that work best in a particular setting” (Guskey 1995 p.117 cited in James, 2000.)

3.10) Impact of CPD

In this section, I shall review evidence of the impact of CPD. Sydow (2000) argues that CPD results in significant gains for the instructors, students, and institutions. Gains included increased sharing among colleagues, greater student satisfaction, improved curricula, and increased subject knowledge for instructors,

updated skills, as well as new classroom materials. Shepardson & Harbor (2004) report on the effectiveness of the ENVISION professional development model for middle level science teachers. The ENVISION professional development program promoted inquiry learning by interacting with teachers-as-learners rather than as information-gatherers. The findings demonstrated that professional development programs that involve teachers as active learners can enhance teachers' knowledge and changes in teaching practice. Moreover, other activities, such as study groups, can have very beneficial effects not only on the self-efficacy of the teachers but also in building community and relationships, making connections across theory and practice, curriculum reform, and developing a sense of professionalism (Boyle, Lamprianou & Boyle, 2005).

Cantrell & Hughes (2008) investigated the effects of CPD with coaching on sixth and ninth grade teachers' efficacy for teaching literacy and collective efficacy. A teacher survey was used to measure teachers' efficacy before and after participation in the professional development, and classroom observations and teacher interviews were used to measure teachers' efficacy and provided insight into the processes of teacher efficacy development and content literacy implementation. Survey results indicated significant improvements in teachers' perception of their personal and general efficacy for literacy teaching and in teachers' collective teaching efficacy. Teacher interviews also indicated that coaching and collaboration were important factors in the development of teachers' sense of efficacy with and implementation of content literacy strategies

Evidence shows that professional development has a positive impact on teachers' beliefs and practices. Buchanan, Morgan, Cooney & Gerharter (2006) support the claim and clarify key characteristics of effective CPD. The authors

indicate that participants make significant changes in their beliefs and practice as a result of attending the training opportunities. Their findings suggest that having adequate time, and the opportunities for active learning, reflection, and collaboration were important for changes in thinking and professional practice. Furthermore, Taitelbaum, Mamlok-Naaman, Carmeli & Hofstein (2008) studied the development of fourteen chemistry teachers who were involved in a CPD program, focusing on using the inquiry approach in the chemistry classroom-laboratory. The sources of information used as evidence for teachers' changes were teachers' reflections and teachers' practice, obtained from interviews, teachers' portfolios, documentation of the workshop, and observation. The findings suggested that the CPD program contributed to the professional development of the teachers. The teachers had gained more self-confidence, had become more reflective and more aware of their practice, and had changed their teaching practice. The change in the method used in grouping the students, the change in managing the laboratories' lessons, (from teacher-centered to student-centered), and the change in phrasing and posing an inquiry question, are provided as examples of the teachers' changes.

Bredeson (2000) reports that a survey of teachers' participation in professional development programmes indicated that professional development activities provided teachers with new information, changed their views on teaching, changed their teaching practice, and caused them to seek additional information. Similar results are reported by Heaney (2004) in a study of ICT training for teachers in a primary school setting, and Davies and Preston (2002) in a study of the impact of continuing professional development. Heaney (2004) reports that teachers had developed their knowledge, skills, and understanding of ICT from completing the programme and this in turn has had an influence on teaching and learning in the

classroom. Davies and Preston (2002) conclude “*The effects of CPD on professional lives can be generally seen as positive. Almost all respondents identified some aspect of their professional practice that had been positively affected by their training.*” (Davies & Preston, 2002:251).

Table 3.5: Percentage of teachers reporting changes in teaching practice by phase of school and subject taught

Number of changes	Primary				Secondary			
	English	Maths	Science	Total	English	Maths	Science	Total
0	22	29	31	27	13	20	18	17
1	18	19	18	18	11	8	25	14
2	28	25	23	25	33	25	20	26
3	16	14	14	14	21	23	19	21
4	9	7	8	8	13	11	6	10
5	7	6	5	6	8	12	9	10
6	1	1	1	3	2	2	2	2
N	158	162	131	451	116	109	103	328
Mean	1.9	1.7	1.7	1.8	2.4	2.4	2.0	2.4
SD	1.5	1.5	1.6	1.5	1.5	1.7	1.6	1.6

Source: Boyle *et al* (2004)

Note: Including only those who undertook one or more CPD activity

Boyle *et al* (2004) reported that professional development can result in changes in aspects of teaching practice such as planning, classroom management, teaching style, assessment practices, and teacher collaboration. Over three quarters (77% in 2002, 76.4% in 2003) of the survey participants in longer term CPD activities

reported a change to at least one aspect of their teaching practice (Boyle, Lamprianou & Boyle, 2005). As can be seen in Table 3.5, it appears that the English subject specialist respondents from both primary and secondary schools were slightly more likely to make changes to their teaching practice compared to Maths and Science teachers. In primary, 25% of English respondents reported that they had changed 3-4 teaching aspects compared to 21% of maths and 22% of science respondents. In secondary, it was found that 34% of English and Math respondents changed 3-4 teaching aspects compared to 25% of Science respondents.

Changes in teacher behaviour and resulting student achievement through professional development were reported by Flecknoe (2000) in a study of an evaluation of a teacher continuing professional development programme run by Leeds Metropolitan University. The report concludes that *“most participants in the programme have had positive experiences and have presented evidence that something has changed for the better, whether this is pupil attitude or achievement or some change on the part of members of the teaching staff”* (p. 455). If teachers enjoy their professional development sessions, they are more likely to reflect and change their attitudes and behaviour, and therefore, student achievement is affected positively as a result of best practices (Flecknoe, 2000).

Sydow (2000) evaluated the outcomes of the Virginia Community College System's (VCCSs) Professional Development Initiative. The results are based upon a five-year follow-up survey, and an interview of the focus group. The overall findings indicated that long-term benefits resulted from the teachers' participation in various activities made possible through the implementation and continuation of the VCCS Professional Development Initiative. The findings from focus groups also supported survey findings that peer group conferences are highly desirable and highly effective

methods for faculty members' professional development and for enhanced student learning.

Terrell, Powell, Furey & Scott-Evans (2003) investigated the perceptions of primary and secondary school teachers on the impact of CPD at the individual, classroom and organization levels. Data were collected from forty-nine questionnaires to teachers, and the interviews of six teachers, four headteachers, and one deputy head, who had completed or were currently involved in the BA or MA education programs in the School of Education at Anglia Polytechnic University (APU). The findings indicated that teachers reported positive gains by participating CPD in relation to the reflection on their teaching practice, confidence, classroom management, and professional discourse.

Teachers reported that they experienced vast CPD opportunities in schools. Some of these CPD opportunities, such as coaching and modeling practice, have created a positive and supportive learning environment. The majority of teachers expressed that they were able to acquire knowledge, reflect, share, and evaluate their teaching practice with peers more effectively. As a result, these teachers believed that they had become more effective teachers and managers, and felt more confidence on the ability to teach students effectively (Terrell *at el*, 2003).

3.11) Characteristics of Effective CPD

The research literature contains intensive case studies on the effects of professional development, evaluations of the programs, and surveys of teachers about their experiences. In addition, there is a large literature describing the characteristics of effective professional development. Across a number of different studies, the

following common characteristics have been identified by research as characteristics of successful professional development:

Type: The literature has suggested that *reformed* types of professional activities were superior to *traditional* approaches such as short courses and workshops. Desimone, Porter, Birman, Garet & Yoon (2002) investigated the effects of the types of professional development on the overall quality of the program. They compared “*reformed types*” of professional development activities, such as networking, internships, study groups, and resource centres to “*traditional types*” such as workshops or conferences. They found that schools that support such reformed types of activities are more likely to be engaged in continuous improvement efforts and to have increased teacher active learning. The appropriate model of CPD might be a change process model or a skill-training model. It could involve action research, clinical supervision, reflective practitioners, distance education, learning networks, and study groups or expert-presenters (Pritchard & Marshall, 2002).

Content: The content of professional development programs and activities is related to the success of the effort. Continuing professional development is most effective when it is focused on practical and relevant issues for the participants incorporates their prior experience, active learning, and links to theory and practice (Irvine, 2006). Professional development activity should be focused specifically on improving and deepening teachers’ content knowledge (Desimone et al., 2002.) High quality professional development enables teachers to develop further expertise in subject content, teaching strategies, uses of technologies, and other essential elements in teaching to high standards (Bredeson, 2002.) Moreover, the content of professional

development needs to be applicable to the target audiences and their respective needs. Professional development should involve teachers in the identification of what they need to learn and is designed according to teacher-identified needs (Brown, Edmonds & Lee, 2001.)

Duration: Continuing of Professional Development of any variety requires time and, professional development should be perceived as a long term process, acknowledging the fact that teachers learn over time. It is suggested that professional development activities that extend over a period of time rather than short courses or conferences have been shown to produce higher participant performance and greater sustained positive change (Brown et al., 2001.) Traditional forms of professional development such as short courses or one-day workshops are considered less effective. Professional development should, it is argued, be a continuous and on-going process, involving follow up and support for further learning (Bredeson, 2000, 2002; Pritchard & Marshall, 2002).

Time and resources: Effective CPD requires substantial time and other resources (Bredeson, 2002; Knight, 2002). Without the financial resources, CPD for teachers may be problematic and less effective. Continuing professional development that seeks real and exhaustive curricular change must be accompanied by resources to enact the new content. The resources enable teachers to improve their instruction, providing the necessary equipment essential for teachers' learning and practices (McCaughtry, Martin, Kulinna & Cothran, 2006). One study indicated that high quality school districts spent as much as 20% of their budget on professional development, while lower quality districts allocated only 2–3% of their budget for

professional development (Pritchard & Marshall, 2002). The National Staff Development Council also recommends that up to 20% to 25% of staff time be devoted to development activities (NSDC, 2001).

Teachers must be given time to reflect and practise in order to successfully effect changes in schools. They need the time and opportunity to reflect on and practise what they are learning as they acquire new skills. Heaney (2004) suggests that sufficient time is needed for teachers to consolidate their learning and to further develop their use of new knowledge and skills. With appropriate time and resources, *“teachers can enhance their knowledge and skills through inquiry and critical reflection on their daily practices and its outcomes”* (Vandenberghe, 2002:655).

Small/ Cognate groups: Fleming, Shire, Jones, Pill & McNamee (2004) claim that CPD is perceived to be achieved more effectively in small groups or within 5-10 group members. The composition of groups is also thought to be optimal when cognate rather than deliberately mixed. This composition of groups can be based on shared subject, shared school, and shared field or course.

Collegiality/collaboration: There is evidence that collaborative learning is an effective form of professional development. It is equally important therefore that providers of CPD for teachers recognize the importance of collaborative learning in their provision and actively incorporate opportunities for its development (Keay, 2006). Teachers need opportunities to collaborate and work with colleagues in their professional communities and effective professional development is characterized by having gained staff commitment and is valued. Effective professional development allows colleagues to engage in dialogue that leads to learning and change (Cardno,

2005). Good and Weaver (2003) indicated that group work is most beneficial; teachers appreciate learning from others who are also experiencing instructional and management challenges on a daily basis. Professional development may usefully be planned around learning communities, capitalizing on teachers' distinctive learning needs. Communities of learners, organised by years of experience, content-area or educational goals, can be formed, enriching the professional development experience.

Leadership and sustained administrative support: Support has been identified as another characteristic for successful CPD. The support might occur within peer groups, through mentoring as well as the support from administrators. CPD must be supported by the administration, managed by a staff developer, allocated adequate funds, and successfully evaluated. Headteachers should offer a wide range of CPD opportunities for teachers to participate as part of the school community (Sydow, 2000). Workplace ethos is seen as contributing to the tensions participants feel in relation to their dual roles in the CPD process. Successful professional development requires educational leadership to initiate and support change (Daies & Preston, 2002). Cardno (2005) indicates that effective educational leaders can significantly influence the development of people and consequently improve the effectiveness of an organization. School leaders can positively influence the learning experiences of students by supporting and managing the professional development of staff members. *“Active educational leadership will involve making educational matters a priority through a focus on learning and teaching and school management that enables the staff to concentrate on the core task”* (Cardno, 2005: 297).

3.12) Evaluating CPD

Evaluation is a key element in the professional development process. It is about making judgments and using the evidence gathered to assess or to decide how effectively procedures and practices are working. The information acquired through evaluation can provide data on the professional development needs of the staff members, gain a better understanding of the effectiveness of the programs, and adjust programs to improve their effectiveness on teachers and students (Heaney, 2004.)

Goodall et al. (2005) argue that evaluation of a CPD program has two main purposes: to improve the quality of the program (formative evaluation), and to determine its overall effectiveness (summative evaluation). Formative evaluation is used to modify or improve a CPD program. It helps ensure that each CPD program meets the participants' needs and expectations, is a meaningful experience, and can be translated into the classroom. Participants are asked for feedback and comments, which enable the staff developers to improve the quality of the program.

Summative evaluation is used to determine the overall effectiveness of a CPD program. Students' test scores, for example, are often being used to evaluate the effectiveness of CPD. However, some researchers have shown that using the performance of the students alone to evaluate the effectiveness of CPD is ineffective. Student achievement measures cannot reveal classroom changes as a result of teacher professional development programs. Other indicators, such as the opinion of the teachers may be valuable information (Boyle, Lamprianou & Boyle, 2005).

Bredeson (2002) argues that the methods used for gathering, analyzing, and reporting professional development evaluation data vary. Typically, evaluations for professional development programs are focused on learner satisfaction and immediate reactions. A typical evaluation form asks the learner to assess the quality of learning

materials, perceptions of learning gains, and satisfaction with the instruction. Although answers to these questions are important, they do little to assess what the participant has learned, or how able that participant will be to transfer any new learning to the professional environment (Williams, 2007).

Williams (2007) suggests a mixed method evaluation to evaluate the training outcomes. He identifies four levels of evaluation as follows:

1. *Perception/Opinion*: satisfaction with the learning experience and perceived progress of the learner.
2. *Competency*: demonstrated new knowledge and attitudes.
3. *Performance*: demonstrated new skills.
4. *Outcomes*: demonstrated impact on client outcomes and service delivery

Williams (2007) concludes that it is possible to evaluate in all of these areas if quantitative and qualitative methods of evaluation are combined. Quantitative and qualitative methods have respective strengths and limitations that can be balanced by designing evaluations that use both. The combination of methods results in a richer data set that can answer questions of both the process of the learning experience, and the effect that training has on professional practice.

The methods needed to gather information generally require time, resources, personnel, and expertise to complete the assessment. Each professional development program requires different types and methods of evaluation. For example, in Guskey's five critical levels of evaluation (see below), discovering how participants liked the learning activity and if the learning activity were appropriate (level 1), might require the use of written questionnaires, group interviews, and individual written log

(Guskey, 2000.) At other levels such as teacher learning, organizational change and support, and participant use of new knowledge and skills, methods may include paper-pencil assessments, simulations, portfolios, case study analyses, assessment of school, district records, observations, and video recording. Finally, methods used to determine the effects of professional development on student outcomes may include the use of written questionnaires, interviews, observations, formal tests, and case studies (see Table 3.6 below.)

Guskey (2000) suggests that the effectiveness of a professional development program can be evaluated at five critical levels. The levels described by Guskey represent an adaptation from Kirkpatrick (1959), who developed a model for evaluating training programs in business and industry. The five level evaluation model presented by Guskey is summarized as follows:

1. *Participants' reactions*: This level is the most common and widely used to evaluate the participant's reactions. Nevertheless, it is the least informative as participants' reactions to the CPD tend to be impressionistic and highly subjective. Questions addressed at this level will include whether the participants enjoy the experiences and find them useful. Information on participants' reactions is usually gathered at the end of a session or handed out questionnaires. These questionnaires usually include a combination of rating scale items and open ended response questions that allow participants to make their own comments.
2. *Participants' learning*: The second level measures participants' learning. The questions addressed at this level will include whether or not participants

increase their knowledge and/or skills. This level requires different methods of evaluation as there are many types of learning and knowledge that can be acquired. Depending on the goals of the program or activity, this can involve anything from a pencil and paper instrument to a simulation or full scale skill demonstration

3. *Organizational support and change:* The third level makes a shift from the individual learner towards organizational issues. The outcomes and support at organizational level plays important parts to CPD evaluation since they would influence motivation and sustainability of change. Gathering information at this level is typically more complicated than previous levels. Questions addressed at this level will include whether the CPD activities promote changes that were aligned with the mission of the school and district, whether appropriate resources such as time and money were made available to participants, and whether participants are supported to implement their new learning. Procedures include analyzing district, local authority, or school records, examining the minutes from follow up meetings, administering questionnaires, and interviewing participants and school administrators.

4. *Participants' use of new knowledge and skills:* The fourth level asks if participants are really using the new knowledge and skills acquired. This level requires data about actual changes in what learners do after the training as compared with what they did before. Information at this level can be gathered through direct observation (the most accurate one), questionnaires or structured interviews with participants and their supervisors, or oral or written

personal reflections, examination of participants' portfolios. Since information at this level can not be gathered at the end of a professional development session as same as levels 1 and 2, time must be given to allow participants to adapt the new ideas and practices to their new settings.

5. *Student learning outcomes*: The fifth level focuses on the impact of CPD on student learning outcomes. Measures of student learning usually include cognitive indicators of student performance and achievement, such as portfolio evaluations, grades, and scores from standardized tests, and non-cognitive indicators of student attitudes and behaviors, such as study habits, school attendance, and classroom behaviors.

Table 3.6 provides these five key levels of professional development evaluation with the kinds of questions that should be asked and some suggestions for gathering information.

Table 3.6: Five Levels of CPD Evaluation

Evaluation Level	What questions are addressed?	How will information be gathered?	What is measured or addressed?	How will information be used?
1. Participants' reaction	-Did they like it? -Was their time well spent? -Did the material make sense? -Will it be useful? -Was the leader knowledgeable and helpful? -Was the material research based	-Questionnaires administered at the end of the session -Focus groups -Interviews -Personal learning logs	-Initial satisfaction with experience	-To improve program design and delivery

Table 3.6: Five Levels of CPD Evaluation (cont.)

Evaluation Level	What questions are addressed?	How will information be gathered?	What is measured or addressed?	How will information be used?
2. Participants' learning	-Did participants acquire the intended knowledge and skills?	-Paper/pencil instruments -Simulations and demonstrations -Participant reflections -Participant portfolios -Case study analyses	-New knowledge and skills of participants	-To improve program content, format, and organization
3. Organizational support and change	-Was implementation advocated, facilitated, and supported? -Were problems addressed quickly and efficiently? -Were sufficient resources made available? -Were successes recognized and shared?	-District and school records -Minutes from follow-up meetings -Questionnaires -Focus groups -Structured interviews with participants and administrators	-The organization's advocacy, support, accommodation, facilitation, and recognition	-To document and improve organizational support -To inform future change efforts
4. Participants' use of new knowledge and skills	-Did participants effectively apply the new knowledge and skills?	-Questionnaires -Structured interviews with participants and their supervisors -Participant reflections -Participant portfolios -Direct observations -Video or audio-tapes	-Degree and quality of implementation	-To document and improve the implementation of program content
5. Student learning outcomes	-Did it affect student performance or achievement? -Is student attendance improving? -Are dropouts decreasing? -Did it influence students' physical or emotional well-being?	-Student records -School records -Questionnaires -Structured interviews with students, parents, teachers, and/or administrators -Participant portfolios	-Student learning outcomes -Cognitive -Affective -Psychomotors	-To focus and improve all aspects of programs design, implementation, and follow-up -To demonstrate the overall impact of professional development

Source: Guskey, T. R. (2000).

Goodall *et al.* (2005) examined the usefulness of this model for evaluation of CPD developed by Guskey and also added two additional levels for evaluating CPD, namely “changes in student behaviours” and “value for money”. The survey results of 223 CPD co-ordinators who responded to a survey of 1,000 randomly selected schools reveals that evaluation occurred at most of Guskey’s outcome levels, with two thirds of respondents claiming each element was evaluated at least *sometimes*. The most frequently evaluated component according to CPD leaders was participant satisfaction, which was *always* evaluated in over 35%, and was *usually* evaluated in a further 41% of schools. The second most frequently evaluated element was value for money, which was reported to be *usually* or *always* evaluated by 52% of the CPD leaders. Changes in student behavior were the least likely to be evaluated, which was *usually* or *always* evaluated by only 25%. Examination of the *rarely* or *never* responses, indicated again that participant satisfaction was the most frequently evaluated outcome, value for money was the second most frequently evaluated, and changes in student behaviour was the least (see Table 3.7 for more details.)

Table 3.7: Evaluation of different outcomes of CPD according to CPD leaders (%)

	Never	Rarely	Sometimes	Usually	Always
Participant Satisfaction	0.0	5.1	18.9	40.8	35.2
Participant learning	7.9	17.3	30.9	26.7	17.3
Support from the school	8.3	18.2	37.5	29.7	6.3
Participants’ use of new knowledge and skills	6.7	15.4	40.0	31.8	6.2
Pupil learning outcomes	11.4	14.5	34.7	33.7	5.7
Changes in pupil behaviour	22.9	14.4	38.3	17.6	6.9
Value for money	13.4	15.5	19.6	33.5	18.0

Source: Goodall *et al.* (2005)

Goodall *et al.* (2005) report that CPD leaders usually evaluated CPD activities and support for evaluating CPD. The evaluation of CPD influenced most school leaders to plan for future activities and school development planning. Only few leaders claimed that the evaluation of CPD has no influence and were a waste of time. CPD leaders used a variety of methods in order to evaluate CPD. Methods varied also depending on each level of CPD evaluation.

Goodall *et al.* (2005) indicate that out of the 223 CPD leaders who responded to the survey most usually evaluated *participant satisfaction* by using questionnaires (75%) of respondents and interviews questions (61%). Reflective learning logs and journals were rarely used (12%). They usually evaluated *participant learning* by using classroom observation (70%), interviews with participants (66%) and questionnaires (63%). Tests (6%) and learning logs/journals (19%) were rarely used by CPD leaders. *Support from the school* was most frequently evaluated using interviews with participants (72%). Reflective learning logs and journals were rarely used. *Participants' use of new knowledge and skills* was most frequently evaluated using classroom observation (90%), interviews with participants (81%) and assessment by their line manager (78%). Pupil attitude measures and reflective learning logs and journals were rarely used. Finally, classroom observation (92%) and student outcome measures (86%) were the frequently used as methods for evaluating *student outcomes*. Learning logs and questionnaires to participants were rarely used.

Goodall *et al.* (2005) argue that school leaders require targeted training for their role in evaluating the impact of CPD. Many leaders felt unprepared for the role both in terms of knowledge of the field and in terms of evaluation of the impact of CPD undertaken. Therefore, appropriate training should be provided for CPD leaders

in schools. Moreover, they also suggest that there is a need for a nationally accepted generic role specification for the post of CPD leader. This specification needs to be related to the training required for the role of the CPD leader within the school.

3.13) Gender Differences in Views and Preferences of CPD

There have been many researches that broadly examine the differences between men and women over a wide variety of issues. The literature has shown that men and women differ in many ways (e.g. Gray, 2005 cited by Hyde 2005; *Weiser, 2000*). However, Hyde (2005) holds a very different view that men and women are similar on most, but not all, psychological variables. Therefore, when conducting a research, researchers should carefully examine whether there are similarities/differences due to gender and other factors such as age that influence the result of the study.

In this section, I shall review the literature examining gender differences in views and preferences of CPD. The Institute for Policy Studies in Education (IPSE) at London Metropolitan University carried out a survey of 10,000 teachers for the General Teaching Council for England (GTCE) in 2006. The sample was taken from the GTCE registration database with a response rate of 37 percent. The survey shows that there was a gender difference in the views of CPD among surveyed teachers. Female more than male teachers were positive about their CPD experiences, and were likely to report that their CPD needs have been met (IPSE, 2006).

There was a significant difference between male and female teachers regarding the types of CPD activities they had accessed in 2005. Overall, female teachers tended to have accessed slightly more types of CPD than male teachers. Moreover, female teachers were more likely than male teachers to have participated in

collaborative learning with their colleagues, engaged with a subject or specialist association, developed their learning individually, and attended courses in school held on INSET days. Male teachers were more likely than female teachers to have been a mentor or coach, taken an active part in school self-evaluation process, observed their colleagues, and been supported by a mentor or coach (IPSE, 2006).

There was also a gender difference in the preferred topics of CPD among teachers. Male more than female teachers were likely to indicate a training need for all topics within the areas of pupils' development and behaviour, as well as leadership management and team working. Female more than male teachers are likely to indicate a training need for supporting pupils' literacy and numeracy, teaching pupils with English as an additional language, and meeting the needs of ethnic minority pupils (IPSE, 2006).

Whilst IPSE reported that female teachers were more positive towards CPD than male teachers, the study from Day, Sammons, Stobart, Kington & Gu (2007) reported different results. Based on a DfES funded study of 300 teachers in 100 primary and secondary schools in England, the authors summarize key findings of the analysis of teachers' views on CPD in responses to questions about their interests and experiences. Overall results show that, most teachers (80%) were satisfied with their CPD experiences. However, male teachers were slightly more positive with their CPD opportunities than female teachers. Female teachers were slightly more negative than male teachers about the time they had to reflect on their teaching and to learn with and from colleagues, although this was not statistically significant.

Clarke & Robson (2005; see page 66 for the details of the study) and Goodall *et al* (2005; see page 64 for the details of the study) did not report any gender differences in their study of CPD. However, Lindsay (2009; personal

communication) has provided data from a subsequent analysis of CPD by gender from the Goodall *et al*' study. The analysis has shown that there were no gender differences in views of the effectiveness of different forms of CPD among teachers. There were also no gender differences for the teachers' views with respect to other issues, such as the usefulness of different methods in evaluating CPD. A similar pattern was found among CPD leaders that there were no significant differences due to the gender. These data have shown that there were no gender differences for the CPD leaders' views of the effectiveness of different forms of CPD. Furthermore, there were no gender differences among CPD leaders with respect to the preferences in terms of CPD types of evaluation.

The studies from IPSE, Day *et al*, and Goodall *et al* have shown different results. Whilst IPSE and Day *et al* reported that there were differences by gender, reanalysis of the Goodall *et al* dataset found no gender differences. However, it is important to note that the questions addressed by these studies varied and so it is difficult to conclude that there are similarities/differences attitudes towards CPD between male and female teachers. Rather, the evidence suggests that there are gender differences specific to certain issues such as experience of and preferences for different types of CPD but not for evaluation of the effectiveness of different forms of CPD.

3.14) Conclusion

Continuing professional development (CPD) is regarded as essential in teaching as well as in other professions. It is widely accepted that CPD is a central component for improving education of professionals. Many researchers and educators acknowledged the important role of CPD in the retention of teachers, in building

capacity to address problems in education, and in improving schools (Pritchard & Marshall, 2002).

Continuing professional development (CPD) is not a new concept for teachers. Every teacher during their teaching career would involve in some form of CPD, both formal and informal activities. However, not all types of CPD are effective. The literature review argues that traditional types of professional development such as short courses or workshops are generally less effective for teachers in changing teaching practices. It suggests some characteristics of effective professional development, including type, content, duration, time and resources, and support from the colleagues and administrators.

With the increased expectations for highly qualified teachers, professional development must be of the highest quality to be effective in enhancing teachers' knowledge and skills and student achievement. Therefore, the literature review suggests that professional development activities need to be evaluated effectively in order to effect improvement. An evaluation of CPD programs is seen as very important to ensure the satisfaction of the participants and also as a means of improving future provision. Effective CPD would benefit teachers, students, and schools as a whole.

The literature review in this chapter provides background to the study and helps to develop the research questions. The next chapter will provide an overview of the methodology used in order to conduct this study and answer the following research questions.

- 1) What is the role of headteachers in promoting and supporting CPD?
- 2) What are the various types and content of CPD activities and programs that teachers experience in Thailand?
- 3) What are the characteristics of effective CPD?
- 4) Is CPD making a difference to the quality of teaching in schools?
- 5) Are there any relationships between CPD and student achievement and behaviour?
- 6) Are there any gender differences in the teachers' views and preferences for CPD?

Chapter 4

Literature Review of Research Methodology

4.1) Introduction

This research used a combined methods investigation. There were both quantitative and qualitative research elements in the study. There were quantitative data deriving from the survey of teachers and there were qualitative data deriving from the semi-structured interviews of headteachers and teachers as well as the answers to open-ended questions from the survey of teachers. The purpose for the quantitative data was to provide a sense of the degree to which particular views regarding quality were held. The semi-structured interviews were used to allow a variety of issues to be explored in greater depth than was possible in the surveys. Moreover, the answers to the survey open-ended questions provided valuable information as participants can express their views and amplify their comments.

With respect to various types of methodologies and their strengths and limitations, this chapter provides an overview of both quantitative and qualitative research methods. The first part of the chapter will address the issues related to the debate of methodology approaches. The next part will provide a brief review of the distinction between qualitative and quantitative approaches, followed by the pros and cons of each approach. Finally, the adaptation of the use of combined methods approaches would be discussed.

4.2) Methodology in Educational Research

Recent research in education has dealt extensively with the debate over the use of either quantitative or qualitative research methodologies (Niaz, 2004). The distinction between these two methodologies has been the reason for many debates,

and it appears that there have been a number of criticisms on quantitative research. The argument presented by such critics is that education involves interpersonal relationships that cannot easily be captured in quantitative terms. Education research, they argue, is uniquely qualitative because it involves issues to do with the quality and the nature of these relationships (Campbell, McNamara & Gilroy, 2004).

There has also been a serious critique of the quality of present education research practice. The value and effectiveness of social science research have been increasingly called into question in the USA and UK, as well as in many other countries (Gorard, 2003). Richardson (2002) also holds a similar view that attention has been increasingly given to concerns about the quality of UK education research both within the research community and in a wider public policy sphere. Little support has been given for the view that there is no problem of quality and no need to improve the quality of education research. Although it is clear that something is amiss in the standard of education research in the UK, it is not clear on what the quality of education research should be (Gorard, Rushforth & Taylor, 2004).

Social science is facing increasing demands for research involving quantitative approaches. The use of numbers can be a very useful tool as either a basis for a complete piece of work or as part of a project that employs many different methods. Therefore, policy makers and the new ESRC guidelines for research training express their needs and demands that all researchers should learn techniques of analysis involving numbers (Gorard, 2003).

Some people also believe that the critique against quantitative research and the lack of methodology skills among researchers may have serious implications for the nature and function of education research. Over the last twenty years, education research has moved away from the quantitative approach and placed greater value on

qualitative approach. Many publications in journals are based on qualitative rather than quantitative method, by a ratio of around two to one in one US journal (Taylor 2001, cited in Gorard, 2003). As a result, there have been some concerns for a shortage of quantitative work in education, and there are claims for the need to enlarge the group of people using quantitative methods in order to improve the quality of education research (Gorard *et al*, 2004).

4.3) Use of Different Methodology

Gorard *et al* (2004) report their findings on the range of methods that are currently being used in education research in the UK. Findings are based on interviews with 25 key stakeholders, 521 responses from questionnaires, 8,691 individual RAE (The Research Assessment Exercise 2001) returns to education, and the analysis of the education journals contents. The paper summarizes a general overview of the nature of research, the use of a range of methods for design, views concerning current strengths and weakness in methods, and the methodological development needs for future improvement.

Most stakeholders, some of whom were chief executives, heads of research from national and local government, research funding agencies, or the teaching profession, reported the need to improve the quality of education research. They argued that there is a widespread weakness in the quality of UK education research and much of this weakness is attributed to a shortage of skills in quantitative methods. Stakeholders, therefore, addressed the issue of building capacity in quantitative education research to extend the range and balance of methods in education research (Gorard *et al*, 2004).

Gorard *et al* (2004) reported that stakeholders agreed that the majority of education research is considered small scale and non cumulative. Stakeholders argued that qualitative research has its own limitations, and many researchers employ qualitative methods without a thorough concern over the appropriateness of the methods used. Many researchers are lacking in research skills; interviews are the primary tool in most research as researchers have no experiences or training in other skills. As a result, stakeholders in this study suggested that researchers need more training of both qualitative and quantitative methods along with training in the use of computer software or data collection and analysis.

Although their stakeholders reported that there is a lack of quantitative work in relation to qualitative work, evidence from the surveys of researchers, RAE returns, and journal contents analysis indicated that there is no particular shortage of quantitative work in education research. A majority of education researchers and RAE returns reported the use of quantitative methods, as well as the substantial number of research publications involving quantitative methods supported this view. A wide range of methods has been used in education research in UK, including interviews, case study, observations, qualitative general, quantitative general, surveys, triangulation, action research, experimental design, longitudinal study, comparative study, and ethnomethodology. There were also a number of researches that could not be classified into the categories of method used (see above).

Gorard *et al* (2004) support the view for the need for an improvement in the quality of education research. However, they conclude that an improvement in the quality of education research is not going to come through increasing the proportion of quantitative research methods. Rather than a restriction in of the methods, the quality of the research would be improved by a greater understanding of a wide range

of approaches among researchers, clear research questions, a greater fit between research questions and the methodology used, and a greater process of transforming research findings into researchers warrants.

4.4) The Methodological Debate

There has been extensively debate in social research methodology between the use of quantitative and qualitative methods. The debate has been ranging from particular themes about methods for collecting and analyzing data to the issues within philosophy of science. The advantages and disadvantages between the quantitative and qualitative has let to protracted arguments with the proponents of each arguing the superiority of their kind of data over the other. Advocates of quantitative argue that their data are hard, rigorous, credible, and scientific (Lund, 2005) and that qualitative data are usually considered more susceptible to bias and subjectivity than quantitative data (Yanos & Hopper, 2008). On the other hand, advocates of qualitative counter that their data are sensitive, nuanced, detailed, and contextual and that quantitative data rely too much on respondents' self-reported data and therefore underestimate or neglect the non measurable factors, which may be the most important (Lund, 2005).

Trochim (2006) argued that there is little difference between quantitative and qualitative at the level of the data. There are two reasons why quantitative and qualitative data are somewhat in common. First, all qualitative data can be coded quantitatively. The comments from respondents through interviews or open-ended survey questions can be sorted into categories and themes, and that the simple act of categorizing can be viewed as a quantitative one. Secondly, all quantitative data are based on qualitative judgment. All numerical information involves judgments and

interpretation of what the number means. Therefore, quantitative and qualitative data are virtually inseparable and cannot be considered totally devoid from each other.

There are some differences in philosophical assumptions between the quantitative and qualitative research methods (Lund, 2005; Trochim, 2006). Many quantitative researchers embrace different epistemological assumptions from qualitative researchers. In quantitative research, researchers attempt to test the hypothesis to increase the predictive understanding of phenomena. However, in qualitative research, researchers believe that the best way to understand any phenomenon is to view it in its context and be flexible in an inquiry (Trochim, 2006).

The debate of quantitative versus qualitative research methods has led some researchers to combine the two approaches in order to get the advantages of each approach. Increasingly, many researchers agree that these two approaches can be used simultaneously to answer a research question. Although some researchers believe that these two approaches cannot be combined because the assumptions underlying each tradition are so much different, others believe that the skilled researcher can successfully combine approaches and that these two approaches need each other more often than not (Driscoll, Yeboah, Salib & Rupert, 2007; Lund, 2005).

Combined methods research is becoming increasingly popular in education studies, as well as in other disciplines. Many CPD studies combined quantitative and qualitative approaches in various ways and various levels of the inquiry. One example of a CPD study that employed a combined method approach of both quantitative and qualitative data collection was conducted by Goodall *et al* in 2005 in “Evaluating the impact of continuing professional development (CPD).” The research methods used in this study include the literature review, survey, and interviews. The

combined methods used in this study have provided rich judgments concerning the impact, efficiency, effectiveness, and evaluation of the provision of CPD.

In my opinion, each approach, whether quantitative or qualitative, has its advantages and limitations. There are no single rules concerning the choices of which approach to use. Any methodological choices depend on the purposes and skills of the researchers to design which approaches would be appropriate to best answer the research questions. Moreover, Patton (1987) also suggested that decisions about which kind of research method to use may be determined by the preferences, practicalities, creativity, and the availability of resources.

I also believe that both quantitative and qualitative approaches have been employed to address almost any research topic and questions. Rather than discounting either approach for its disadvantages and limitations, it is of value to use both approaches in conjunction with each other to build on the strengths of each approach and limit their weaknesses. Researchers should find the most effective ways to incorporate elements of both approaches to ensure the validity and accuracy of their studies as much as possible. They are committed to research designs that are relevant, meaningful, understandable, and able to produce useful results that are valid, reliable, and believable (Patton, 1987).

4.5) The Distinction between Quantitative/Qualitative Research

There are two approaches to investigations in education research, including quantitative and qualitative research methods. Both research methods have differences and similarities. Beside the fact that each type of research follows the steps of scientific method, there are many differences in their characteristics as shown in Table 4.1.

Table 4.1: Characteristics of quantitative and qualitative research

Quantitative	Qualitative
Numbers	Words
Large sample size	Small sample size
Deductive	Inductive
Objective	Subjective
Controlled	Flexible
Report statistical analysis	Report rich narrative, individual interpretation
Measurable	Interpretive

Source: Advice (2000); Arksey & Knight (1999); Frankel & Devers (2000); Lund (2005); Patton (1987); Walliman (2005)

Quantitative research methods were developed originally in the natural sciences to study natural phenomena. They consist of numbers and are most often used to study large populations (Arksey & Knight, 1999; Lund, 2005). In contrast, qualitative research methods were developed in the social sciences to enable researchers to study social and cultural phenomena. They consist of words and images and typically focus on small populations to determine why an intervention or factor has a certain effect. They are in depth and can provide valuable insight into different practices and capture nuances that can be missed in quantitative studies (Arksey & Knight, 1999; Frankel & Devers, 2000).

All quantitative research requires a hypothesis before research can begin (deductive), however, a hypothesis is not needed in a qualitative approach to begin a research (inductive). The quantitative research often draws heavily on existing theoretical and substantive prior knowledge to conceptualize specific situations, and

to predict what will happen to particular people or group and why. From another point of view, the qualitative research often consists of describing and understanding of a person's or group's experience before developing or testing more general theories and explanations (Advice, 2000).

Another difference between these two research methods is that quantitative research seeks to be objective, it tries to be unbiased toward its subjects and has no interaction with a participants. The qualitative research, in contrast, is subjective. Researchers or observers need to be involved in the situation and try to understand the subject's point of view (Advice, 2000). Moreover, Advice (2000) also describes that quantitative research seeks a highly controlled setting; it may focus on tightly controlled variables in a structured setting to provide an explanation of laws (as in experimental designs) or is tightly controlled by specific content action by participant, in questionnaire completion for example. On the contrary, qualitative research is a more flexible approach. The qualitative research designs are subject to change, often going back and forth from data to sense making or developing theory.

Finally, the distinction between quantitative and qualitative research is not only about differentiating types of data, but also approaches to analysis (Walliman, 2005). For data analysis, quantitative methods use statistical methods to analyze data (Walliman, 2005). Quantitative research counts and measures behaviour with scales, tools, or interventions. From another stand point, qualitative analysis uses analytic induction to analyze data. The analysis of qualitative often involves interpretative judgments (Patton, 1987).

4.6) Pros and Cons of Quantitative and Qualitative Research

Quantitative and qualitative research methods have different strengths and limitations. Both methods are valuable and can be used either in isolation or conjunction in the same study. It is therefore important for researchers to recognize the strengths and limitations of both in order to decide whether which methods would be appropriate for which purposes, and better understand how their divergent approaches could complement each other.

Table 4.2: Advantages and disadvantages of quantitative research methods

Quantitative	
Advantages	Disadvantages
Produces accurate statistical data	Inflexible process
Easy to analyze	Provides narrow information
Data can be consistent, precise, and reliable	Difficult to understand context of program activities or explain complex issues
Findings can be generalized to the study population	Low validity

Source: Patton, 1987

As can be seen in Table 4.2, the advantage of the quantitative approach is that it provides a general picture of a situation by using the large scale of a study to produce statistical data. Quantitative measures are succinct and relatively easy to analyze (descriptive statistics) but they also are open to higher level analyzes to examine more complex relationships. The data produced by quantitative methods can be very consistent, precise, and reliable. Findings can be generalized if the selection

process is carefully designed and the sample is representative of the study population as a whole.

The disadvantage of the quantitative research, for example the use of questionnaires, is that it forces responses or people into categories that might not fit in order to make meaning. Quantitative research can become subjective in the process of determining the variables or the ways of sampling. If the researcher does not carefully select the population, the findings would not be valid for generalization. Moreover, quantitative research underplays critical features of human phenomena so that results may often be criticized as being of limited value. Quantitative data may be too thin, and there may not be enough information about the individual participants or not enough details to explain the situations being studied (Table 4.2).

Table 4.3: Advantages and disadvantages of qualitative research methods

Qualitative	
Advantages	Disadvantages
Complement and refine quantitative data	Difficult to analyze and make systematic comparisons
Flexible process	Low reliability
Enables exploration of the meaning of concepts and generates new theories and ideas	Findings can be less generalized to the study population
Allows the researchers to describe current situations or explain complex issues	Data collection is costly and time-consuming
Provides a detailed information and produces valid data as issues explored in sufficient depth	

Source: Patton, 1987

The strength of the qualitative methods is that they provide depth and detail data through direct quotation. The qualitative process is flexible, and allows the observers to interact with the respondents. This enables them to explore the meaning of concepts and generate new ideas and theories. The analysis of the qualitative research is more powerful when it provides more detailed information to explain complex issues (Table 4.3)

The limitation of qualitative research is that the number of individuals being studied is typically small, leading to low population validity and is therefore only partially representative of a population. Data collection for qualitative research is also time consuming and more costly than quantitative research. Qualitative research is not as reliable as quantitative research since opinions are not numerical and do not have the substance.

In general, quantitative and qualitative research methods are complementary and work best when used together. Researchers can use the strengths of an additional method to overcome the weakness in another. The use of both methods would produce a richer and more comprehensive understanding of a research's accomplishments and learning. A combination of both methods can ensure high reliability of data, better understand the contextual aspects of the research, flexibility and openness of the data collection, and a better interpretation of the research problem.

4.7) Surveys and Interview Techniques

Quantitative and qualitative research consists of many different kinds of methods to collect and analyze the data. Table 4.4 provides examples of quantitative and qualitative methods that are widely accepted in social sciences and education.

Table 4.4: Methods for data collection

Quantitative methods	Qualitative methods
Surveys / Questionnaires	Interviews
Experiments	Observations
Tests	Action research
Statistical Analysis	Case studies

Source: Campbell, McNamara & Gilroy (2004); Cohen, Manion & Morrison (2003)

This research study used surveys and interviews methods for data collection and analysis. Each method has different goals and different advantages and disadvantages. A goal of survey research is to collect data representative of a population. Campbell *et al* (2004) argues that questionnaire surveys are very versatile data gathering method. They can be used to generate empirical data, giving a measurement of opinions, attitudes, preferences, behaviors, and values of a target population. The surveys are an efficient way for collecting information from large number of respondents. Their results can be generalized onto the population from which the representative sample came. They are also cheap, easy to analyze, and can be used to gather a great variety of data of both a quantitative and qualitative nature.

Cohen, Manion & Morrison (2003) explain that the questionnaire survey tends to be more reliable and more likely to encourage honesty than the interview because it can be designed to be anonymous. It is also more economical in terms of time and money and allows the researchers to draw conclusions with a certain degree of confidence.

There are two elements of disadvantages that can occur in questionnaires. First, the way a question is worded can change how people answer the question. Some respondents may answer questions in the way that they think the questioner wants them to answer rather than their true beliefs or behaviors. This problem may occur if a question contains a leading opinion or if the respondents answer to the questions by what appears to be the most appropriate answer (Cohen *et al*, 2003). Second, the survey questions can lead to the data being ambiguous since each respondent interprets the same words differently. Cohen *et al* (2003) argue that the choice of “agree” may mean different things to different people, and to anyone interpreting the data. For example, one respondent’s “agree” may be another respondent’s “strongly agree”.

Unlike surveys, the goal of the interview is to elicit rich and detailed material that can be used in analysis (Cohen *et al*, 2003). Interviews for research or evaluation purposes differ from other kinds of interviews or conversations. Cohen *et al* (2003) define the interview as “*an interchange of views between two or more people on a topic of mutual interest, sees the centrality of human interaction for knowledge production, and emphasizes the social situatedness of research data*” (p.267). The research interview may serve three purposes such as to gather information having direct bearing on the research objectives, to test or suggest hypotheses, and to use in conjunction with other methods in a research undertaking (Cohen *et al*, 2003).

The advantage of the interviews is that they permit face to face contact with the respondents, giving the interviewer opportunity to explore topics in depth. Interviews usually yield rich data, detailed information, and new insights. They are useful for dealing with sensitive or complex issues and areas. They allow interviewer to be flexible in administering interview to particular individuals or circumstances.

The interviewer can ask follow up questions to illicit a clearer response and ensure that all questions are answered. Interviewees can ask their own questions, and the interviewer can be able to explain or clarify questions that might be misunderstandings by the interviewee (Cohen *et al*, 2003).

The disadvantage of the interview is that it is typically conducted with small numbers of samples which could limit the ability to generalize. Interviews are also expensive and time consuming. Analyzing and interpreting interviews requires considerable skill and experience. Moreover, interviews are considered to be subjective and of low reliability because the evaluator or researcher decides which quotes or specific examples to report. They are also difficult to analyze, and may be difficult to transcribe and reduce data since the volume of information is too large. Interviews may be more reactive to personalities, moods, and interpersonal dynamics between the interviewer and the interviewee than methods such as surveys. In addition, some interviewees may distort information through recall error, selective perception or desire to please interviewer (see above).

Arksey & Knight (1999) suggest that survey questionnaires and interviews methods may actually complement each other and researchers can benefit from the advantages of each. Questionnaires can be both a good way to check on an interpretation of interview data, and a way to explore how widely views, feelings, and understandings are shared. Different methods may represent different understanding of the world. Where appropriate, it is possible to combine the research methods to get a richer picture of how the world might be.

4.8) Reliability and Validity of the Research

Reliability and validity are extremely important for accurate measurement in a research study. Cohen *et al* (2003) defined reliability as the extent to which an experiment, test, or any measuring procedure yields similar results no matter how many times it is applied to random members of the same target group. In contrast, validity refers to the extent to which the research is measuring the specific concept that the researcher is attempting to measure. Both reliability and validity are important in quantitative and qualitative research paradigms.

Researchers need to maximise reliability and validity in their studies. The reliability and validity of a study is improved by careful planning and performance of the study, using appropriate measuring instruments in the correct manner, ensuring that the questions are not ambiguous. There are also a number of more specific issues, for example taking the mean of multiple measurements (Cohen *et al*, 2003).

The concepts of reliability and validity have a different emphasis and meaning when applied to quantitative and qualitative data (Golafshani, 2003; Sim & Wright, 2000). In quantitative, reliability refers to the consistency of collected data, while validity refers to the appropriate and accurate measurement to the purpose of the research. However, reliability in qualitative refers to the dependability, while validity refers to the degree to which a finding is judged to have been interpreted in a correct way (Golafshani, 2003).

All research is based on some underlying assumptions of what can be considered as valid research, and which research methods are appropriate. The quantitative methods presuppose a positivist epistemology, usually using measurable data to form facts and patterns. Quantitative researchers are likely to remain apart from the subjects who take part in their studies. They believe that research can

produce information that is valid about world that can be subjected to achieve measurement. They are careful to make any judgments about attitudes, perceptions, interactions, or predispositions. On the other hand, qualitative methods presuppose an interpretative epistemology; usually using words, pictures, or objects rather than numerical data to understand the world under investigation. Qualitative researchers commonly assume that they must interact with their studied phenomena. They believe in multiple realities rather than a single truth. They collaborate with participants to understand the participants' points of view. They record what they see and interpret the meaning from interactions that take place in the groups they are studying (McNabb, 2004).

Many researchers argue that the use of both quantitative and qualitative research methods has been to ensure greater validity and improved reliability of data (Golafshani, 2003; Golledge & Stimson, 1996). Researchers can use the results of their quantitative and qualitative data for confirmation and generalization of a study. Both quantitative and qualitative methods can complement each other, resulting in stronger research design, and more valid and reliable findings. This approach is called combined methods or mixed methods: the former is preferable as it implies a deliberate considered bringing together of methods.

Both quantitative and qualitative researches in this study are concerned with the principles of validity and reliability. The overall reliability of this study was enhanced by a combined method of both quantitative and qualitative to see if the data yield similar, consistent results. The research instruments in this study were carefully designed to maximise their technical quality. The surveys were used as they were considered being high in reliability and presented all subjects with a standardised stimulus. Similarly, the interviews were carried out using a standard semi-structure

format to ensure consistency but still allowing each interview some chance to provide individual responses. Also, interviews were used as additional methods to increase the validity of the research, showing thoughts and ideas expressed by the subjects of the interpretation of interviews.

From this research, both sources of data from the quantitative and qualitative elements produced complementary and similar results. For example, most Thai teachers have positive attitudes and views towards CPD as shown by the questionnaire and interviews (see more details in Chapter 6 and 7). Additionally, the overall validity of this study is the validity for its intended purpose, as well as the validity of the study sample. It was necessary to ensure that the study was appropriate to the cultural setting where research is to be carried out, as well as accuracy in measurement and interpreting the results. The samples in this study were highly representative of Thai teachers in Chiang Mai, therefore, the results of the study might be deemed to be valid on these grounds. I also tried to understand and be accurate in interpreting the participants' views and thoughts. The questions were also worded as clearly as possible so the intent of the question is understood by the respondent, and more likely to be accurately answered. However, there is a cultural issue concerning a tendency to provide positive responses which is discussed further in Chapter 8.

4.9) Use of Combined Methods

This research was undertaken using combined methods of both a quantitative and qualitative approach. Although some researchers have promoted the superiority of their favored approach over the other, there seem to be general agreement in recent years that the "paradigm wars" are over (Creswell, 2002; Tashakkori & Teddlie,

2003). Creswell (2002) and Tashakkori *et al* (2003) suggest ways to combine quantitative and qualitative research methods in education. The use of combined-methods has been promoted to eliminate the paradigm wars by letting the two methods co-exist independently in a single research study. Researchers can use a combination of both quantitative and qualitative to get the advantages from each method.

In recent years, there has been an increased interest in combined methods research in the fields of social and educational research both in the United Kingdom and North America. Researchers have adopted a combined-methods research design, using both quantitative and qualitative methods to better analyze the data and take advantage of the strengths of each approach. They believe that the combination of approaches provided greater opportunities for mapping, analysis, and interpretation of the research area than a single method or approach (Sammons, Daya, Kingtona, Gua, Stobart & Smeesb, 2007).

The used of both qualitative and quantitative methods in the same study can be referred to by various names as multi method, integrated, hybrid, combined, or mixed methods research. The term preferred here is “combined” as it implies a planned and deliberate combination of methods appropriate to the task. The purpose for using the combination of methods was to make the scope of the research wider, with the idea to compensate the shortcomings of each approach. Combined methods research means adopting a research strategy of more than one type of research method. It can also mean working with different types of data. The methods may be a combination of qualitative and quantitative methods, a combination of quantitative methods, or a combination of qualitative methods (Driscoll, Yeboah, Salib & Rupert, 2007).

Tashakkori and Teddlie (2003) describe how researchers can get advantages by using different methods of analysis to address research questions in the same phase or in different phases of a single study. Different kinds of methods are useful for addressing different kinds of questions. The use of different methods provides a more accurate picture and perspectives than a single approach. For example, quantitative analysis might help the researchers identify the subjects for their qualitative study, whereas qualitative interviews might provide additional insight into processes identified through quantitative analysis.

In this study, a combination of quantitative and qualitative research was used to enhance validity, and provide checks and balances in analyzing both facts and perceptions. The quantitative method used was the survey of teachers. A quantitative survey was designed to provide statistical facts concerning CPD that teachers had experienced in Thailand, as well as to confirm and complement data collected through interviews. Moreover, since the survey method tends to be perceived as objective rather than subjective, it was hoped that information collected from a large number of respondents through survey would provide valid result to the readers.

In addition to a survey, the qualitative methods used in this study were the interviews of teachers and headteachers, as well as open-ended questions from the teachers' survey. The purpose of gathering responses to open-ended questions was to encourage respondents to freely explain their views. The use of qualitative interviews was to provide more details and explanation of the issues concerning CPD as reported by the survey. These include:

- Detailed description of different types of CPD that teachers has experienced in Thailand
- Analysis of the characteristics of CPD
- Description of how CPD has benefits the schools, teachers, and students
- Analysis of effective and ineffective types of CPD as reported by people interviewed

4.10) Conclusion

The use of either quantitative or qualitative methods has become a matter of controversy. The distinction between the two methods and the limitations and strengths of both are highlighted by many critics. However, I believe that neither method is superior to the other. Different purposes of study require different research methods, and their success depends upon the researchers' employing them. Moreover, since each approach has its own advantages and disadvantages, using both approaches could be considered in the study when appropriated.

Chapter 5

Research Methodology

5.1) Introduction

This chapter presents the methodology and procedures used in the pilot study and the main study to answer the research questions:

1. What is the role of headteachers in promoting and supporting CPD?
2. What are the various types and content of CPD activities and programs that teachers experience in Thailand?
3. What are the characteristics of effective CPD?
4. Is CPD making a difference to the quality of teaching in schools?
5. Are there any relationships between CPD and student achievement and behaviour?
6. Are there any gender differences in the teachers' views and preferences for CPD?

The first part of this chapter will discuss the methodological procedures that have been used in the pilot study. The second part of this chapter will discuss the methodological procedures that have been used in the main study. Both pilot and main study were undertaken in Thailand. Finally, the final part of this chapter will discuss the ethical issues considered while designing and conducting the study.

5.2) Pilot Study

The pilot study was divided into two phases. Phase one was the surveys of teachers and phase two was the interviews of headteachers and teachers. The purpose

of the pilot study was to clarify and improve the questions, identify gaps and areas that need to be examined, and increase the reliability and validity of the measures.

Phase 1: The first phase of the pilot involved the use of a teacher survey to gain the information and improve the efficiency of the main survey. The study piloted the survey with ten teachers from a private vocational school located in an urban area in the south of Chiang Mai, Thailand that the researcher used to work with. The pilot participants were self-selected and assumed to be representative sample as they encompasses teachers from different years of teaching experiences and various subject areas as mathematics, physics, English, Thai, electronics, construction, mechanical, and computer teachers.

The pilot survey questionnaire were created and designed to the same content format as intended for the main survey. The survey contained a variety of questions types, such as Likert scale questions, choices, and open ended questions. The surveys were conducted in March 2006 and were delivered personally to all participants at one time in a group at a private room provided by the school. All participants were asked to complete the survey and were asked at the end of the survey their opinions concerning the questions and answer choices of the survey. They were also given an opportunity to identify any problems they had with a survey, such as terms or phrases they found confusing and ambiguous, and given suggestions on questions that would be helpful for the research investigation.

Phase 2: The second phase of a pilot involved the used of in depth interviews of headteachers and teachers to refine questions, question order, and identify the interview content. Pilot interviews were held with the headteacher and teachers from the same private vocational school as *phase 1*. The interviews were conducted with one headteacher, and three selected teachers who had participated in the teacher

survey in *phase 1*. Appointments were made with all participants before the interview had occurred.

The interviews of headteachers and teachers were conducted face to face and recorded on a cassette tape recorder. All interviews lasted between 30-45 minutes. Notes were additionally taken where respondents seemed not to understand the interview questions. The respondents were asked at the end of the interviews for comments and criticisms of the questions and any ambiguity.

The data from the pilot survey were analyzed using SPSS, and open ended questions were analyzed qualitatively for themes. Results of the survey of ten pilot participants suggested that teachers experienced various types and contents of CPD. They also demonstrated positive attitudes towards CPD and rated highly use of the new knowledge and skills they had acquired through CPD. Responses from the pilot survey were used to make some modifications of the main study. These included the revisions of some wordings and sentences, the more specific questions about the resources available for CPD, and the use of open ended questions for teachers to specify for Likert scale and choices questions.

All pilot interviews were transcribed in a timely manner to reduce the risk of error from the transcription. The interviews were transcribed in Thai language and were manually coded according to themes that identified. An analysis of interviewing the headteacher and teachers from the pilot study provided an indication that CPD was generally viewed as formal learning activities such as short courses or conferences provided by the ESA or other organizations and took place outside of the school. All interview participants thought of CPD as teachers going out of school to attend courses in the daytime and sometimes in the evenings and during weekends. The interviews with the headteacher and teachers also indicated that CPD would be

effective when there were strong leaders to support and provide meaningful learning experiences for all staff members.

The headteacher and teachers reported that they were satisfied with CPD courses that involved participants actively in the learning process, as well as engaging participants for collaborative learning with their peers. They also agreed that CPD would be effective when there were adequate time, money, and other resources to provide support for such learning activities. Unfortunately, the headteacher and one out of three interviewed teachers indicated that they need more financial support for CPD so that they could often attend lectures, conferences, or seminars to update their knowledge and skills.

All interviewees tended to be positive about CPD. They felt that CPD was important and would benefit the teachers, students, and the schools. Both headteacher and teachers acknowledged their roles and responsibilities for professional development. While teachers reported having responsibility to keep themselves up to date with practice, the headteacher stated that he had responsibility to support and provide opportunities for CPD to his staff members and gave extra motivation to remain competent.

The pilot study refined the interview questions for the main study. Some special issues were raised from analyzes of the pilot study such as the lack of financial resources, and the way of teachers' learning through collaborative working. Therefore, extra questions were added to the main study to find out the availability of resources to support CPD activities within schools, as well as the questions considering team learning and the culture within the school to support teachers' ongoing learning and professional development growth.

The pilot interviews also helped to improve the questions and structure of interviews for the main study in a more logical order. The pilot interviews relied too much on the questions and there had been no flow and transition between questions. For the main study interviews, I also spent more time in small talk before the interviews started. I explained to the interviewees that CPD could be both formal and informal activities so that the interviewees could refer to wide range of CPD that they had experiences and not restricted only to traditional courses.

5.3) Main Study

The main study encompassed two phases. The first phase was a survey designed to explore the views about the types of CPD experienced by teachers in Chiang Mai, Thailand, and explore the forms of CPD that teachers find most useful for improving their skills and their competence. The second phase was the interviews of headteachers and teachers to additionally identify the roles that effective headteachers need to undertake to foster program implementation and improvement, identify the teachers' use of new knowledge and skills developed by CPD, and identify the benefits and effectiveness of CPD to teachers, schools, and students. These two phases provided both quantitative and qualitative data sources to greater understanding of CPD, its practices, needs, and outcomes.

Design

The study used a combined methods design with both quantitative and qualitative methods to evaluate the results. Both surveys and interviews were used in this study to address the research questions. Survey and interview questions were developed from the pilot study.

Phase 1: The study conducted a survey of teachers from various schools. A large scale survey was designed to produce quantitative data concerning views of representative samples of teachers on CPD, and the characteristics of the sample population.

Phase 2: Interviews were undertaken to acquire in depth information relevant to the overall study, as well as clarify some of the main issues highlighted from the findings of the questionnaire. Interviews were conducted with headteachers and teachers to gather in depth qualitative information about the roles of the headteachers, the forms of CPD that are found to be effective, and the benefits of CPD to teachers, schools, and students.

Participants

Participants in the main study comprised headteachers and teachers from a random sample of schools, who had participated in CPD designed to reform instruction and improvement in student learning.

Phase 1: Surveys were sent to five hundred schools in the North region of Thailand selected at random. In each school, the headteacher was asked to hand the questionnaires to two or three teachers, resulting in a potential of up to 1500 teachers. The probability sample of schools were expected to appropriately represent the relative proportions of all relevant subgroups of schools, such as primary, secondary, vocational, urban, suburban, rural, public, private, mixed, and separate schools for boys and girls. At the end, surveys were returned from 405 schools with the total of 1201 responses from the teachers.

Phase 2: A total of 15 headteachers (10 male, 5 female) were interviewed from one public elementary school, one private elementary school, three public middle schools, two private middle schools, three public high schools, three private high schools, one public vocational school, and one private vocational school (Table 5.1). The sample of these headteachers was selected through purposive sampling method to get the opinions of the target population from the various types of the schools in both urban and rural areas. Appointments were made to all interviewed headteachers.

Table 5.1: Headteachers involved in the interviews arranged by date of interviews

Headteachers	Sex	Type of Schools	Level of Schools
H1	Male	Private	High
H2	Female	Public	High
H3	Male	Public	Middle
H4	Male	Public	High
H5	Male	Public	Middle
H6	Female	Private	Elementary
H7	Male	Public	High
H8	Female	Private	High
H9	Male	Public	Vocational
H10	Female	Public	Middle
H11	Female	Private	Middle
H12	Male	Public	Elementary
H13	Male	Private	High
H14	Male	Private	Vocational
H15	Male	Private	Middle

Table 5.2: Teacher involved in the interviews arranged by date of interviews

Teachers	Sex	Types of Schools	Levels of Schools	Subject taught
T1	Female	Private	High	Math
T2	Male	Private	High	Physics
T3	Female	Public	High	English
T4	Female	Public	High	Math
T5	Female	Public	Middle	Thai
T6	Female	Public	Middle	English
T7	Female	Public	High	Biology
T8	Female	Public	High	English
T9	Female	Public	Middle	Math
T10	Female	Public	Middle	History
T11	Female	Private	Elementary	Math
T12	Female	Private	Elementary	Social study
T13	Female	Public	High	Chemistry
T14	Female	Public	High	Math
T15	Male	Private	High	Math
T16	Female	Private	High	Biology
T17	Male	Public	Vocational	Mechanical
T18	Female	Public	Vocational	Computer
T19	Female	Public	Middle	English
T20	Male	Public	Middle	Science
T21	Female	Private	Middle	Math
T22	Female	Private	Middle	Science
T23	Female	Public	Elementary	Thai
T24	Female	Public	Elementary	Math
T25	Female	Private	High	Computer
T26	Female	Private	High	Physics
T27	Male	Private	Vocational	Electronics
T28	Male	Private	Vocational	Construction
T29	Male	Private	Middle	English
T30	Female	Private	Middle	Math

Additionally, a total of 30 teachers (7 male, 23 female) were interviewed, including two teachers from public elementary schools, two from private elementary schools, three from public middle schools, two from private middle schools, six teachers from each of the three public high schools, six teachers from each of the three private high schools, two teachers from public vocational schools, and two teachers from private vocational schools. These teachers taught various major subjects, including Mathematics, Science, Thai, English, Health education, and Vocational education (Table 5.2). The sample of these teachers was individually selected by the headteachers from each of the fifteen schools (two teachers for each school).

Instruments

The instruments used in this study included questionnaires, and interview schedules of headteachers and teachers. Teacher surveys and in depth interview questions for headteachers and teachers were created to ask specific questions, concerning their views of effective types of CPD and the benefits of professional development on teachers, schools, and students. These teacher surveys and interview questions of headteachers and teachers were developed from the literature review and a pilot study.

Phase 1: The survey questionnaire consisted of three parts with 18 questions in total in a mixed format of Likert scale, choices, and open ended questions (see Appendix A). Some of the survey questionnaires were an adaptation from the CPD questionnaire by Goodall *et al* (2005). Section 1 contained the teacher surveys which explored their views of CPD, the programs, and its effectiveness in a mostly 4 point

Likert scale format. Section 2 contained demographic information of the teachers in the choices format allowing teachers to choose one answer or complete one of the blank questions. Finally, Section 3 contained additional information in a mixed format of choices and open-ended questions. These open ended questions enabled respondents to write a free response in their own terms, to explain and qualify their responses and avoid the limitations of pre-set categories of response.

Phase 2: Semi-structured interviews of headteachers and teachers consisted of six main questions requiring open ended answers and were designed to explore issues in greater depth than was possible through the survey. Six main questions for interviewing headteachers concerned their view of CPD, their roles and responsibilities, the types of training that have been provided within the schools, the resources available to support CPD for teachers, the management of time for CPD, and the evaluation of the success of a programme (see Appendix B). Six main questions for interviewing teachers concerned their view of CPD, the ways to involve themselves into learning, the types of CPD that they had experienced, availability of resources for CPD, the impact or expected outcomes of CPD, and suggestions for the improvement of CPD (see Appendix C). In each case, open ended questions were used followed as necessary with probes to seek to maximize consistency in coverage of topics.

Procedures

Phase 1: A randomly selected sample was created for distribution of the survey questionnaires. Five hundred letters were sent to school headteachers, asking for assistance to hand the enclosed questionnaires and envelopes to the teachers in the

middle of August 2007 (see Appendix D). These letters were originally developed in English and translated into Thai. Teachers then completed and returned their questionnaires in a sealed reply paid envelope to the school headteachers. A total of 282 survey responses were returned by the middle of September 2007. Additional mailings of 218 were sent at the end of September to remind the previous schools that had not yet responded to the surveys. A total of 123 survey responses were returned by schools by the end of October.

Phase 2: Headteachers and teachers from primary, secondary, and vocational schools were contacted for an in depth interview. A convenient time and location to conduct the interview was arranged with each participant. All participants were interviewed about their views and the benefits of CPD. Various types of CPD activities that teachers had attended were explored. The interviews were conducted during 15 August to 28 September 2007. The interviews of headteachers took place in their office, and the interviews with teachers took place at a private room provided by the school. Permission was asked to use a tape recorder to record the interviews. All the interviews lasted approximately 30-45 minutes. All interviewees were assured of confidentiality and that they would not be identified.

Analysis

Phase 1: Responses from both teacher surveys were analyzed using SPSS version 12 to obtain descriptive and inferential statistics. Teacher surveys contained questions to determine what type of CPD opportunities teachers have had, which ones they have found most useful, which ones have influenced them to change their teaching practice, which ones they believe they need to support their teaching

practices, and whether or not CPD programs impact upon student learning and achievement.

Section 1:

Q1-2) In order to find out which types and content of CPD were most popular and which one were the least popular, items were scored by each type and content as follows:

Often = 1

Sometimes = 2

Rarely = 3

Never = 4

Therefore, low scores represent high frequencies

Q3) In order to find out which organizations most frequently provided CPD for teachers, items were scored for each organization in the following way:

Often = 1

Sometimes = 2

Rarely = 3

Never = 4

Not sure = 0

In addition, "Not sure" was not included in the analysis

Q 4-6) In order to find out how teachers acquired new knowledge and skills, how they used new knowledge and skills acquired by CPD, and how satisfied they were with the resources available to them, items were scored in the following way:

- Strongly agree = 1
- Agree = 2
- Unsure = 3
- Disagree = 4
- Strongly disagree = 5

Q 7) In order to find out the effectiveness of each type of CPD, items were scored by each type in the following way:

- Highly effective = 1
- Somewhat effective = 2
- Somewhat ineffective = 3
- Ineffective = 4
- Never participated this type of activity = 0

The analyses were carried out after removing “Never participated this type of activity”

Q8) In order to find out the outcomes gained as a result of CPD, items were scored for each outcome in the following way:

- Changed significantly = 1
- Somewhat changed = 2
- Not changed = 3

Section 2:

In order to find out the characteristics of the teachers, respondents were given choices to circle to each question, such as gender, school type, subject taught, years of experiences, and age group.

Section 3:

In order to find out additional information, open-ended questions were provided to teachers.

Phase 2: The tapes with the recorded interviews of headteachers and teachers were transcribed in Thai language, and manually coded into broad themes based on the research objectives and interview questions. These interviews were analyzed in two ways. Firstly, a numerical analysis was carried out to show numbers making particular comments. Secondly, a thematic analysis was carried out for headteachers and teachers separately.

5.4) Ethical Issues

The British Educational Research Association (BERA) believes that all educational research should be conducted within an ethic of respect for persons, knowledge, democratic values, and the quality of research. It adopted a set of ethical guidelines to enable educational researchers to improve all aspects of the process of conducting research, and reach an ethically acceptable position in which their actions are considered justifiable and sound (BERA, 2004). The main guidelines are summarized as the follows:

- *Informed consent:* Educational researchers are responsible to inform potential participants in advance of any features of the research. All participants have the right to choose whether to participate in an investigation after being informed. They also have the right to withdraw from a study at any time, and they must be informed this right by the researchers.
- *Openness and honesty:* Researchers are responsible to be open and honest about the research, its purpose and application. Honesty and openness should characterize the relationship between researchers, participants, and institutional representatives.
- *Privacy:* Researchers are responsible to protect the confidentiality of both participants and data. They must recognize the informants' and participants' entitlement to privacy and must accord them their rights to confidentiality and anonymity.
- *Methods:* Researchers must employ methods that are fit to the purpose of their studies. They have a responsibility to be mindful to gender, cultural, and other significant differences within the research population in planning, conducting, and reporting of their research. They also need to emphasize the importance of reliability, validity, and *generalizability*.
- *Publication:* Researchers need to be clear, straightforward, and use appropriate language that is relevant to research populations.

Ethical issues were dealt with during every phase of this study in a way to show the utmost respect and to give them confidentiality to all participants, as well as to protect them from any potential harm.

Every effort was made to treat all participants, namely headteachers, teachers, and the schools with dignity and respect. For the surveys, letters were sent to headteachers, asking for permission to carry out an investigation to survey teachers concerning their views of CPD, the programs, and the effectiveness of CPD. All participants were given a copy of the questionnaire together with an envelope marked private and confidential. After the participants completed the questionnaires, they would then put their responses in the given envelope, seal it and hand this back to their respective headteachers. This ensures that all participants were given privacy.

The survey questionnaires were self administered by the recipient. There was little control over the feedback therefore. Survey questions were structured and standardized to ensure reliability, generalizability, and validity. Every respondent received the same questions and in the same order as other respondents. Questions in the surveys were also ordered in such a way that a question would not influence the response to subsequent questions.

For the interviews, a telephone call was made to each school, explaining the purpose of the study and request permission for interviews of both the headteachers and teachers. For all interviews, private rooms were used which were provided by the schools. Hence, all the interviews were treated with strictest confidence. Prior to any interviews, the researcher requested permissions from participants to record the interviews. During the interviews, if there were any questions/answers that were not clear, the questions were repeated to ensure better understanding by both parties.

All participants both from the surveys and interviews were briefly told either in a letter accompanying the survey or at the start of interview about the purpose and potential benefits of the study, and were free to withdraw from the study at any time. All information from the study was kept confidential and participants were announced that it was to be used for research purposes only. The study does not refer to the names of the schools or the names of the participants. Anonymity was preserved by use of codes instead of the participants' real names. All participants from both surveys and interviews were treated with respect at all times.

5. 5) Conclusions

The chapter described the methods used in this study in order to explore the types and forms of CPD that teachers experience in Chiang Mai, Thailand. It employed both quantitative and qualitative research methods to gain number of advantages from each method and minimize their limitations. In this study, the quantitative method used was the survey of teachers, and the qualitative method used was the interviews of headteachers and teachers as well as open-ended questions from the teachers' survey. A quantitative survey was conducted with a large sample size of teachers to provide statistical facts concerning CPD and make systematic comparisons. It was also hope that a quantitative survey would produce quantifiable, reliable data that can be generalizable to some larger population.

Qualitative interviews of headteachers and teachers and open ended questions from the survey were used to obtain more in depth information and explore new research themes. The weaknesses of the quantitative method, such as failure to provide in depth information, inflexible process, and pre-determined outcomes were compensated by interaction with the participants during the interviews. Moreover, the

weakness of the qualitative method, such as excessive subjectivity of judgment, low reliability, and low population validity, were compensated by crosschecking with the results of the statistical analyses.

Chapter 6

Analysis of Quantitative Data

6.1) Introduction

A large scale survey was designed to produce quantitative data concerning views of representative samples of teachers in the North region of Thailand on CPD. The survey questionnaire focused on CPD experiences that teachers had undertaken during the previous year. Surveys were sent to five hundred schools, and were returned from 405 schools with a total of 1201 responses from the teachers. However, there was one teacher who did not respond to the characteristics of survey sample questions, so the overall total participation would equal to 1,200. The schools were expected to be appropriately representative of schools in Thailand. There was also a variation in response rate for each question and within each question not every subsection was completed by every teacher. In all presentations of post hoc tests (Bonferonni) statistical significance was set at the .05 level.

6.2) Characteristics of Survey Sample

This section provides statistics for the characteristics of the survey sample of teachers in terms of gender, age, years of teaching experience, type of school, and subject taught. Information on characteristics of the survey sample helps to better understand the nature of individual teachers with respect to their CPD experiences.

Table 6.1: The gender of survey respondents (%)

Gender	% Total (n=1200)
Male	27.3
Female	72.8

Tables 6.1-6.5 shows the demographic data of the survey respondents. The overall total participation was 1,200. The majority, almost three quarters (72.8%) of the respondents were female with just 27.3% male (Table 6.1).

Table 6.2: Age category of respondents (%)

Age group	% Male (n=327)	% Female (n=871)	% Total
20-30	11.6	13.5	13.0
31-40	18.0	17.6	17.7
41-50	41.0	42.8	42.3
51-60	29.4	26.1	27.0

A total of 1198 reported their age. The gender balance varied across the age group of respondents. Over two thirds (69.3%) of respondents were 41 years of age or older, 30.7% were 40 years or younger, and the largest proportion were 41 to 50 years (Table 6.2). There was no significant differences between male and female teachers with respect to age group ($X^2= 1,858$, $df= 3$, $p= .602$).

Table 6.3: Years of teaching experiences of respondents (%)

Years of teaching experiences	% Male (n=327)	% Female (n=871)	% Total
Less than 1 year	2.8	3.1	3.0
2-5 yrs	24.8	18.0	19.9
6-10 yrs	15.3	14.7	14.9
11-15 yrs	10.7	13.3	12.6
16-20 yrs	8.3	9.4	9.1
More than 20 yrs	38.2	41.4	40.6

Table 6.3 shows that there was a wide range of teaching experience levels among the teachers, from newly qualified teachers to the highly experienced. The majority of teachers reported being in their current school for a long period of time. Of the surveyed teachers, 40.6% had more than 20 years of teaching experience, 36.6% of teachers had 6-20 years of teaching experience, and 22.9% of teachers had five years or less of teaching experience. There was no significant differences between male and female teachers with respect to the years of teaching experience ($X^2=7.845$, $df=5$, $p= .165$)

Table 6.4: The occupation of survey respondents (%)

School type	% Male (n=327)	% Female (n=871)	% Total
Elementary	43.7	61.3	56.5
Middle	37.0	26.2	29.1
High	12.5	9.6	10.4
Vocational	4.0	2.3	2.8
Special	2.8	0.6	1.2

Table 6.4 shows that the sample represents the diverse community of teachers in terms of different types of school. Respondents reported the school system in which they currently worked from a list of five categories, ranging from elementary through secondary, vocational, and special education. Overall, 56.5% of the respondents were elementary teachers, 29.1% middle school teachers, 10.4% high school teachers, 2.8% vocational school teachers, and 1.2% special school teachers respectively.

There was a gender difference across the levels of schooling ($X^2=36.56$, $df=4$, $p= .0005$) Female teachers were more highly concentrated than male teachers at the elementary level. However, male teachers were more concentrated than female teachers at the middle and upper level (Table 6.4).

Table 6.5: Subjects taught by the respondents (%)

Subjects taught	% Male (n=317)	% Female (n=813)	% Total
Thai	6.3	12.9	11.1
Social studies	9.1	3.8	5.3
Mathematics	9.8	8.4	8.8
English	5.0	9.6	8.3
Science	11.4	8.1	9.0
Health education	3.8	0.6	1.5
Vocational courses	4.1	0.7	1.7
Computer	8.2	4.3	5.4
More than 3 subject areas	42.3	51.5	48.9

Teachers were asked to indicate specialist subject areas they taught. They reported a wide range across different subject areas. The largest proportion of both male and female teachers taught more than 3 subject areas. About one in ten (11.1%) of the respondents were teaching Thai, followed by science (9%), mathematics (8.8%), and English (8.3%) (Table 6.5).

Table 6.5 shows that there was a relationship between the gender and the subjects taught by the respondents ($X^2=71.959$, $df=8$, $p= .0005$) Female respondents were likely to teach Thai and English more than male teachers. The other subject areas were more likely to be taught by male rather than female teachers.

6.3) Times for Undertaken CPD Experiences

In this section, the times when CPD were undertaken by teachers were analyzed in terms of the gender of the respondents, the years of teaching experiences, and the types of the schools.

Table 6.6: Times when CPD activities were undertaken by respondents (%)

Times for CPD activities	% Male (n=327)	% Female (n=871)	% Total (n=1198)	t	sig
During school hours	71.9	65.3	67.1	-2.203	*
After school	4.3	7.0	6.3	1.922	ns
On weekend	22.0	34.1	30.8	4.312	***
On summer	14.4	14.6	14.5	0.091	ns
During other school holidays	4.0	6.4	5.8	1.798	ns
Other	1.5	2.2	2.0	0.717	ns

* $p<0.05$, ** $p<0.01$, *** $p<0.001$

Note: Respondents could indicate more than one choice

Participants in this study indicated that there were a variety of times when they engaged in professional development opportunities. The data indicated that CPD activities occurred both during and after contract time. Whereas 67.1% of the respondents indicated that they participated in CPD during the school day, 59.4% of respondents indicated that their CPD activities had taken place outside of teacher's

contract time, such as on weekend (30.8%), during summer (14.5%), after school (6.3%), during other school holidays (5.8%), and before school and evenings (2%) (Table 6.6).

There was a relationship between the gender and the times for undertaken CPD activities. Male teachers were more likely than female teachers to participate in the CPD activities during school hours ($p = .028$). However, female teachers were likely to participate in CPD activities on the weekend more than male teachers ($p < .0005$) (Table 6.6).

Table 6.7: A comparison of the times when CPD activities were undertaken by years of teaching experiences (%)

(n=1201)	<1	2-5	6-10	11-15	16-20	>20	X ²	Sig
During school hours	66.7	68.9	70.8	66.9	63.3	65.8	2.514	ns
After school	8.3	6.7	4.5	5.3	12.8	5.3	10.272	ns
On weekend	22.2	30.2	28.7	27.8	36.7	32.0	4.456	ns
In summer	2.8	9.2	11.2	11.9	15.6	19.7	22.526	***
During other school holidays	2.7	4.6	5.0	6.0	10.0	5.8	5.100	ns
Other	0.0	0.8	1.7	1.3	1.8	3.0	5.742	ns

* $p < .05$, ** $p < .01$, *** $p < .001$

Note: Respondents could indicate more than one choice

In most cases, there were no significant differences between the times when CPD were undertaken and the years of teaching experiences. Nevertheless, there was a significant difference in participating in CPD during the summer holidays with respect to the years of teaching experiences (Table 6.7). Teachers with more than 20 years of experience were more likely to undertake CPD during the summer holidays compare with those with less teaching experience ($p < .0005$).

Table 6.8: A comparison of the times when CPD activities were undertaken by the types of the schools (%)

(N=1201)	Elementary	Middle	High	Vocational	Special	X ²	Sig
During school hours	68.7	67.6	62.4	44.4	71.4	9.189	ns
After school	6.8	6.3	4	6.0	0.0	2.356	ns
On weekend	30.4	29.0	36.8	36.3	28.6	3.234	ns
On summer	14.8	13.5	16.0	18.2	7.1	1.537	ns
During other school holidays	5.9	6.0	5.6	3.0	0.0	1.385	ns
Other	2.5	1.4	1.6	0.0	0.0	2.532	ns

*p< .05, **p< .01, ***p< .001

Note: Respondents could indicate more than one choice

Table 6.8 shows that there were no significant differences between the times when CPD activities were undertaken with respect to the types of the schools. Teachers across different types of schools were likely to undertake CPD when appropriate. The variety of times when CPD was undertaken by teachers is reported in this table.

Table 6.9: Length of CPD activities participated by respondents (%)

Length of CPD activities	% Male (n=327)	% Female (n=871)	% Total (n=1198)	t	sig
Half day	3.7	4.9	4.6	0.933	ns
One day	54.4	50.9	51.8	-1.104	ns
Two days	36.7	49.7	46.1	4.097	***
One week	4.6	7.1	6.4	1.746	ns
Other	7.6	7.3	7.4	-0.175	ns

*p<0.05, **p<0.01, ***p<0.001

Note: Respondents could indicate more than one choice

Table 6.9 presents the length of CPD activities participated by teachers. According to the survey data, teachers indicated that the most common length of CPD activities they had participated was between 1-2 days (97.9%). Only 6.4% of all respondents had participated in CPD activities of longer time. Both male and female teachers usually participated in a short length of CPD activities. However, female teachers had participated in two days CPD activities more than male teachers ($p < .0005$).

Table 6.10: A comparison of the most common length of CPD activities by years of teaching experience (%)

Length of CPD activities	<1	2-5	6-10	11-15	16-20	>20	X ²	Sig
Half day	5.6	5.9	2.8	4.6	7.3	3.9	4.669	ns
One day	63.9	60.9	56.7	44.4	46.8	48.1	18.815	**
Two days	27.8	40.3	41.6	53.0	56.9	47.4	17.829	**
One week	0.0	5.0	6.2	5.3	7.3	7.8	5.286	ns
Other	5.6	3.8	5.6	8.0	5.5	10.3	12.059	*

* $p < .05$, ** $p < .01$, *** $p < .001$

Note: Respondents could indicate more than one choice

Table 6.10 shows that there were some significant differences between the length of CPD activities and the years of teaching experience. Experienced teachers were likely to undertake CPD of a longer duration than teachers with less teaching experience. There was a significant difference on one day activities and the years of teaching experience ($p = .002$). The percentages of teachers with less teaching experience were higher than those with experienced teachers. Moreover, there was a significant difference on two days activities and the years of teaching experience

($p = .003$). Experienced teachers were more likely to have undertaken CPD in the length of 2 days activities than those with less teaching experience. There was a significant difference on “other” length of CPD activities as reported by teachers and the years of teaching experience ($p = .034$).

Table 6.11: A comparison of the common length of CPD activities by the types of the schools (%)

Length of CPD activities	Elementary	Middle	High	Vocational	Special	X^2	Sig
Half day	4.6	5.2	4.0	0.0	7.1	2.152	ns
One day	53.0	52.1	47.2	57.6	14.2	9.817	*
Two days	47.4	44.0	47.2	33.3	57.1	4.022	ns
One week	5.9	6.0	11.2	3.0	7.1	5.780	ns
Other	7.5	8.0	4.8	6.1	14.3	2.493	ns

* $p < .05$, ** $p < .01$, *** $p < .001$

Note: Respondents could indicate more than one choice

Table 6.11 presents a comparison of the common length of CPD activities by the types of the schools. In most cases, there were no significant differences between the lengths of CPD activities with respect to the types of the schools. Nevertheless, there was a significant difference for the length of one day activity with the type of the schools ($p = .044$). Special school teachers were less likely to have undertaken CPD with the length of one day activity compared to others.

Table 6.12: Amount of time for CPD activities undertaken by respondents (%)

Total time of CPD activities	% Male (n=327)	% Female (n=871)	% Total (n=1198)	t	sig
Less than 1 day	0.3	0.6	0.5	0.585	ns
1-2 days	14.4	8.3	9.9	-2.833	**
3-5 days	16.2	16.2	16.2	-0.008	ns
6-8 days	18.7	19.3	19.1	0.248	ns
More than 9 days	51.1	57.9	56.0	2.100	*

*p<0.05, **p<0.01, ***p<0.001

Note: Respondents could indicate more than one choice

Table 6.12 shows that the total time teachers spent in CPD activities over the last year varied. Many teachers devoted substantial time to CPD activities, with 56% of teachers who had attended more than 9 days of activities, and 19.1% had attended 6-8 days.

Male teachers were likely to participate in CPD activities less than female teachers. The total time that male teachers participated in 1-2 days activities were more than female teachers (p= .005). Similarly, female teachers were more likely to spend higher periods of time on CPD activities than male teachers. The data indicated that more female than male teachers participated for more than 9 days of CPD activities (p= .036) (Table 6.12).

There was a gender differences between male and female teachers and the amount of time having undertaken CPD. Male teachers were likely to spend less time on CPD than female teachers. The percentage of male teachers who had undertaken CPD for 1-2 days was slightly higher than female teachers ($X^2= 9.910$, $df=1$, $p= .002$).

Female teachers devoted substantial time, with more than 9 days, than male teachers ($X^2= 4.454$, $df=1$, $p= .035$) (Table 6.12).

Table 6.13: A comparison of the amount of time for CPD activities by years of teaching experience (%)

Total time of CPD activities	<1	2-5	6-10	11-15	16-20	>20	X^2	Sig
Less than 1 day	5.6	0.4	0.0	0.0	1.8	0.2	24.887	***
1-2 days	13.9	10.5	6.7	5.3	18.3	10.0	15.010	*
3-5 days	22.2	19.3	20.2	16.6	16.5	12.6	9.591	ns
6-8 days	13.9	19.7	17.4	24.5	17.4	18.5	4.177	ns
More than 9 days	44.4	52.5	56.1	54.3	55.0	59.2	5.434	ns

* $p < .05$, ** $p < .01$, *** $p < .001$

Note: Respondents could indicate more than one choice

Table 6.13 shows that there were significant differences between the total time for CPD and the years of teaching experience. Teachers with higher years of teaching experience were likely to have spent a greater total time on CPD than those with less teaching experience. There was a significant difference in the amount of time undertaken for CPD within the amount of less than 1 day and fewer years of teaching experience ($p = <.0005$). There was also a significant difference to having undertaken CPD within the amount of 1-2 days and years of teaching experience ($p = .010$). However, in this case the distribution was bimodal with the highest percentages of teacher of <1 but also 16-20 years.

Table 6.14: A comparison of the amount of time for CPD activities by the types of the schools (%)

Total time of CPD activities	Elementary	Middle	High	Vocational	Special	X ²	Sig
Less than 1 day	0.6	0.3	0.0	3.0	0.0	5.368	ns
1-2 days	9.9	9.7	9.6	12.1	14.3	0.504	ns
3-5 days	16.7	15.5	14.4	27.2	0.0	6.243	ns
6-8 days	17.8	21.0	21.6	24.2	7.1	3.937	ns
More than 9 days	56.3	57.3	54.4	33.3	78.6	10.169	*

*p< .05, **p< .01, ***p< .001

Note: Respondents could indicate more than one choice

Table 6.14 shows that there was a slight difference in the amount of time for CPD undertaken by teachers with the types of the schools. There was a significant difference for the amount of time of more than 9 days with the type of the schools (p= .038). Special school teachers were more likely to spend total time of CPD for more than 9 days than other types of schools.

6.4) Types of CPD

In this section, the types of CPD were analyzed in terms of the gender of the respondents, the years of teaching experience, and the types of the schools. Teachers were given the listed types of CPD and asked to rate their frequency of previous participating in each type of activity within and outside the schools over the previous year.

Table 6.15: A comparison of the types of CPD participated by male and female teachers (%)

(N=1201)	Often	Sometimes	Rarely	Never	t	sig
Single workshop / Short Course	40.4	40.9	17.6	1.2	1.672	ns
Workshop series / Long courses	21.2	47.3	27.9	3.6	2.276	*
Conferences / Lectures	74.5	20.7	4.3	6	2.506	*
College coursework	4.6	24.8	30.6	40.0	1.377	ns
Peer coaching / Observation	28.1	43.2	21.7	6.9	0.905	ns
Mentoring / Critical friendships	46.3	41.5	11.3	0.9	0.748	ns
Study groups / Group activities	67.3	26.4	6.0	0.3	1.813	ns
Work-shadowing	40.1	47.6	10.9	1.4	2.467	*
Collaborative learning	45.5	42.7	10.8	1.0	2.334	*
Networks	19.8	51.6	25.0	3.7	1.937	ns
Teleconference / Video	37.6	42.3	17.6	2.5	1.036	ns
Action research	14.8	47.9	30.6	6.7	4.942	***
Self-directed study	72.8	23.8	3.1	0.3	1.029	ns
Other	1.2	1.2	0.4	2.7	0.088	ns

*p<0.05, **p<0.01, ***p<0.001

Note: Your information between male and female teachers can be found in appendix E

Table 6.15 presents the percentage of all teachers that undertook different types of CPD. It also indicates comparison between the frequencies for male and female teachers. Analysis of the data showed that all of the 1,201 respondents to the survey claimed to have participated in many types of CPD activities. Very few of the

different types of CPD had not been experienced by these teachers. This implies that these teachers had experienced a range of CPD. However, 40% of the teachers reported that they had never participated in college coursework.

With respect to the type of CPD, about three quarters of teachers who responded to this question on the survey reported that they often experienced conferences/lectures (74.5%) and self-directed study (72.8%). Survey results also indicated that teachers had participated in more collaborative forms of CPD, including study groups/group activities (67.3%), mentoring/critical friendships (46.3%), and collaborative learning (45.5%). Other types of CPD such as workshops, observations, networks, and action research were reported “often” by only about 30% or less of the respondents (Table 6.15).

Female teachers were more likely to participate in long courses ($p = .023$), work-shadowing ($p = .014$), collaborative learning ($p = .020$), and action research ($p < .0005$) than male teachers. However, male teachers were likely to participate in conferences ($p = .012$) more than female teachers (Table 6.15).

Table 6.16 shows the mean scores for the frequency of attendance at types of CPD activities by years of teaching experiences where 1= often, 2= sometimes, 3= rarely, and 4= never. In most cases there were no significant differences between levels of experience with respect to types of CPD undertaken. There were, however, four types of CPD where there were significant differences. There was a significant difference for experience of having had CPD delivered by long courses/series of workshops with respect to length of teaching experience ($F(5, 1198) = 4.959$, $p < .001$).

Table 6.16: A comparison of the frequency of types of CPD by years of teaching experiences (mean scores)

(N=1201)	< 1	2-5	6-10	11-15	16-20	>20	F	Sig
Single workshop / Short Course	2.11	1.76	1.76	1.86	1.86	1.77	1.957	ns
Workshop series / Long courses	2.50	2.29	2.09	2.16	2.17	2.05	4.959	***
Conferences / Lectures	1.53	1.29	1.30	1.35	1.26	1.31	1.441	ns
College coursework	3.42	3.18	2.99	3.02	2.99	3.03	2.525	*
Peer coaching / Observation	1.81	2.09	2.02	2.07	2.01	2.13	1.320	ns
Mentoring / Critical friendships	1.50	1.67	1.63	1.62	1.64	1.72	1.186	ns
Study groups / Group activities	1.50	1.35	1.34	1.40	1.42	1.41	.082	ns
Work-shadowing	1.74	1.74	1.72	1.72	1.81	1.73	.272	ns
Collaborative learning	1.72	1.68	1.60	1.70	1.69	1.69	.517	ns
Networks	2.33	2.23	2.10	2.14	2.06	2.08	1.955	ns
Teleconference / Video	2.11	1.93	1.77	1.89	1.89	1.80	2.236	*
Action research	2.67	2.38	2.19	2.25	2.18	2.30	3.296	**
Self-directed study	1.28	1.39	1.30	1.30	1.28	1.29	1.238	ns
Other	-	1.50	2.00	1.86	2.00	1.58	.583	ns

*p< .05, **p< .01, ***p< .001

Post hoc tests (Bonferonni) indicated that there was a significant difference between teachers with more than 20 years of experience and those with either less than one year experience or with 2 to 5 years of experience. In each case, the teachers with at least 20 years experience were more likely to say that they had undertaken

long courses/workshop series. Secondly, there was a significant difference between action research and the years of teaching experiences ($F(5, 1198) = 3.296, p = .006$). Teachers with more than 6 years of teaching experiences were likely to have undertaken action research than those with less than one year of experience. In addition, there were slight differences between two other forms of CPD such as college coursework ($F(5, 1198) = 2.525, p = .028$) and teleconference/video ($F(5, 1197) = 2.236, p = .049$) with the length of teaching experience. The mean scores indicated that experienced teachers were more likely to participate in these types of CPD than beginner teachers or teachers with less experience (Table 6.16).

Table 6.17 shows the mean scores for the frequency of attendance at types of CPD activities with types of the schools where a rating of 1= often, 2= sometimes, 3= rarely, and 4= never. With respect to the types of the schools, there were seven types of CPD where there were significant differences, including teleconference/video, self-directed study, workshop series/long courses, collaborative learning, networks, single workshop/short course, and work-shadowing respectively. In most cases, vocational teachers were less likely to have undertaken these particular types of CPD compared to teachers from other types of the schools.

There was a significant difference between teleconference/video and the types of the schools ($F(4, 1197) = 4.578, p = .001$). Post hoc tests (Bonferonni) indicated that vocational teachers were less likely to participate in teleconference/video compared to elementary, middle, and high school teachers. There was also a significant difference between self-directed study and the types of the schools ($F(4, 1198) = 4.560, p = .001$). Middle school teachers were more likely to have undertaken self-directed study than elementary and high school teachers (Table 6.17).

Table 6.17: A comparison of the frequency of types of CPD by the types of the schools (mean scores)

(N=1201)	Elementary	Middle	High	Vocational	Special	F	Sig
Single workshop / Short Course	1.83	1.71	1.84	2.00	1.5	2.573	*
Workshop series / Long courses	2.18	2.08	1.98	2.52	2.07	4.384	**
Conferences / Lectures	1.34	1.24	1.35	1.33	1.21	2.072	ns
College coursework	3.10	3.02	3.02	3.09	2.50	1.894	ns
Peer coaching / Observation	2.08	2.06	2.15	2.00	1.57	1.491	ns
Mentoring / Critical friendships	1.68	1.66	1.69	1.70	1.36	.737	ns
Study groups / Group activities	1.41	1.34	1.42	1.52	1.29	1.361	ns
Work-shadowing	1.74	1.71	1.74	2.06	1.43	2.574	*
Collaborative learning	1.68	1.61	1.74	2.09	1.50	4.181	**
Networks	2.14	2.06	2.14	2.52	1.79	3.580	**
Teleconference / Video	1.84	1.80	1.92	2.39	1.79	4.578	**
Action research	2.31	2.27	2.27	2.39	2.07	.533	ns
Self-directed study	1.34	1.22	1.38	1.45	1.14	4.560	**
Other	1.87	1.82	1.50	-	1.00	1.464	ns

* $p < .05$, ** $p < .01$, *** $p < .001$

The analysis of a comparison showed significant differences between the types of the schools among workshop series/long courses ($F(4, 1198) = 4.384, p = .002$), collaborative learning ($F(4, 1197) = 4.181, p = .002$), and networks ($F(4, 1197) = 3.580, p = .007$). Post hoc tests (Bonferonni) indicated that vocational teachers were less likely to have undertaken workshop series/long courses compared to middle and

high school teachers. They were also less likely to have undertaken collaborative learning compared to elementary and middle school teachers, and less likely to have undertaken networks compared to those teachers from middle and special schools (Table 6.17).

There were some slight differences between the types of the schools with two particular types of CPD, including single workshop/short course ($F(4, 1198) = 2.573$, $p = .036$) and work-shadowing ($F(4, 1197) = 2.574$, $p = .036$). The mean scores indicated that among the five types of the schools, teachers who had mostly undertaken single workshop/short course were those from special, elementary, high, middle and vocational schools respectively. Post hoc tests (Bonferonni) also showed that special school teachers were more likely to participate in work shadowing than vocational teachers (Table 6.17).

6.5) The Content of CPD

In this section, the content of CPD activities was analyzed in terms of the gender of the respondents, the years of teaching experience, and the types of the schools.

Table 6.18 presents a comparison of the content of CPD participated by teachers. Of the CPD courses taken by teachers, content knowledge of a specific subject area was the most common content of CPD participated by respondents. It is clear from the data that the content most often focused on improving teachers' knowledge and skills on content knowledge of a specific subject area (47%), and teaching techniques (36.3%).

Table 6.18: A comparison of the content of CPD participated by male and female teachers (%)

(N=1201)	Often	Sometimes	Rarely	Never	t	sig
Content knowledge of a specific subject area	47.0	42.0	9.6	1.3	1.793	ns
Teaching techniques, strategies, or methods	36.3	49.7	12.8	1.2	1.931	ns
Curriculum planning	29.6	51.0	18.5	1.0	2.081	*
Technology	24.6	52.6	20.1	2.8	0.736	ns
Classroom management and disciplines	30.0	40.8	23.3	6.0	0.562	ns
Communication skills	22.3	46.5	24.3	7.0	0.792	ns
Other	1.0	1.1	0.2	0.0	0.687	ns

*p<0.05, **p<0.01, ***p<0.001

Note: Your information between male and female teachers can be found in appendix F

Taking the “often” and “sometimes” categories together, it was unsurprising that the content knowledge of a specific subject area (89%) and teaching techniques (86%) were rated popular contents for CPD teachers, followed by the content of curriculum planning (80.6%), technology (77.2%), and classroom management (70.8%). Communication skills was the least popular with 31.3% of teachers rated they had “rarely” and “never” participated in this content of CPD (Table 6.18).

Most CPD contents were likely to have been participated in by both male and female teachers. The only significant difference concerned curriculum planning where female teachers were more likely to have participated in the content of a curriculum planning more than male teachers (p= .038) (Table 6.18).

Table 6.19: A comparison of the content of CPD by years of teaching experience (mean scores)

(N=1201)	< 1	2-5	6-10	11-15	16-20	>20	F	Sig
Content knowledge of a specific subject area	2.08	1.77	1.69	1.58	1.53	1.60	5.690	***
Teaching techniques, strategies, or methods	1.97	1.91	1.80	1.70	1.73	1.75	2.730	*
Curriculum planning	2.11	2.08	1.92	1.91	1.80	1.84	5.056	***
Technology	2.36	2.15	1.97	1.97	1.94	1.96	4.026	**
Classroom management and disciplines	2.17	2.20	2.08	2.11	1.97	1.97	2.847	*
Communication skills	2.42	2.23	2.11	2.17	2.07	2.15	1.349	ns
Other	0.00	1.25	1.67	2.00	1.50	1.67	0.622	ns

*p< .05, **p< .01, ***p< .001

Table 6.19 shows the mean scores for the most common content of CPD experienced by teachers with different length of teaching experience where a rating of 1= often, 2= sometimes, 3= rarely, and 4= never. From this table, there were significant differences between levels of experience with respect to the content of CPD in most cases. The mean scores indicated that more experienced teachers were more likely to have undertaken CPD than teachers with less experience, therefore, teachers with many years of teaching experiences were more likely to have undertaken CPD in many content areas than those with less experience of teaching. Firstly, there was a significant between the content knowledge of a specific subject area and the years of teaching experience. Bonferonni tests indicated that teachers with less than one year experience were less likely to have undertaken CPD on the content knowledge of a specific subject area than teachers with 6-10 years, 11-15 years, 16-20 years, and more than 20 years of experience ($F(5, 1198) = 5.690$,

$p = <. 0005$). Moreover, teachers with more than 20 years of experience were likely to have undertaken CPD on the content knowledge of a specific subject area than those teachers with 2-5 years of experience (Table 6.19).

Secondly, there was a significant difference between the content of a curriculum planning and the years of experience ($F (5, 1198) = 5.056, p = < .0005$). Bonferonni tests indicated that teachers with 2-5 years of experience were less likely to undertaken CPD in the content of a curriculum planning than teachers with 16-20 and more than 20 years of experiences. In addition, there were also some slight differences of the CPD in the content areas of technology ($F (5, 1197) = 4.026, p= .001$), teaching techniques ($F (5, 1198) = 2.730, p = .018$), and classroom management ($F (5, 1197) = 2.847, p = .015$) with respect to the years of experience (Table 6.19).

Table 6.20: A comparison of the content of CPD by the types of the schools (mean scores)

(N=1201)	Elementary	Middle	High	Vocational	Special	F	Sig
Content knowledge of a specific subject area	1.65	1.63	1.74	1.73	1.50	0.875	ns
Teaching techniques, strategies, or methods	1.79	1.80	1.73	1.91	1.50	1.111	ns
Curriculum planning	1.94	1.88	1.86	2.00	1.50	1.934	ns
Technology	2.02	2.03	1.95	1.97	1.86	0.423	ns
Classroom management and disciplines	2.02	2.13	2.06	2.03	1.71	1.446	ns
Communication skills	2.19	2.11	2.10	2.36	2.21	1.131	ns
Other	1.67	1.67	1.50	0.00	1.00	0.361	ns

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 6.20 shows the mean scores for the most common content of CPD experienced by teachers from different types of school where a rating of 1= often, 2=sometimes, 3=rarely, and 4=never. From this table, there were no significant differences between the content of CPD with respect to the types of schools.

6.6) The Providers of CPD

In this section, the providers of CPD were analyzed in terms of the gender of the respondents, the years of teaching experience, and the types of the schools.

Table 6.21: A comparison of the providers of CPD between male and female teachers (%)

(N=1201)	Often	Sometimes	Rarely	Never	Not sure	t	sig
My school	39.8	38.7	17.0	4.2	0.3	-2.340	*
Other Schools	2.5	35.1	42.9	18.3	1.2	-0.360	ns
ESA	42.7	40.7	15.0	1.2	0.4	0.327	ns
Private agencies	6.7	31.2	38.9	20.5	2.7	1.981	*
College/University	4.3	26.8	41.0	24.5	3.5	1.592	ns
Other	0.9	0.9	0.7	0.0	0.0	0.046	ns

*p<0.05, **p<0.01, ***p<0.001

Note 1: The ESA is equivalent to the LEA in the UK.

Note 2: Your information between male and female teachers can be found in appendix G

Table 6.21 shows that teachers reported that CPD activities were provided by a variety of organizations including the schools, Education Service Area (ESA), and private agencies. About forty percent (39.8%) of teachers nominated their own school as the site at which they had “often” taken CPD, however, the most frequent provider of CPD activities was the ESA (42.7%). About 6.7% of the teachers had participated often in an activity run by private agencies. Male teachers were more likely to have

participated in an activity run by their own schools than female teachers ($p = .019$). Activities run by private agencies were more likely to have been participated in by female than male teachers ($p = .048$). A college/university (4.3%) and neighboring school (2.5%) were the least common providers of CPD.

Table 6.22: A comparison of the providers of CPD by years of teaching experience (mean scores)

(N=1201)	< 1	2-5	6-10	11-15	16-20	>20	F	Sig
My school	1.81	1.82	1.91	1.91	1.76	1.89	0.734	ns
Other Schools	2.86	2.79	2.78	2.77	2.78	2.84	0.317	ns
ESA	2.03	1.88	1.72	1.75	1.73	1.70	2.775	*
Private agencies	3.06	2.82	2.78	2.72	2.65	2.88	1.966	ns
College/University	3.11	3.03	2.86	2.90	2.83	3.01	1.790	ns
Other	0.00	1.78	2.00	2.00	1.75	2.00	0.135	ns

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 6.22 shows the mean scores for the providers of CPD as reported by teachers with different lengths of teaching experience where a rating of 1= often, 2= sometimes, 3= rarely, and 4= never. In most cases, there were no significant differences between the providers of CPD and the years of teaching experience. Only one exception was a slight significant difference between ESA providers with teaching experience ($F(5, 1198) = 2.775, p = .017$). Post hoc tests (Bonferonni) indicated that teachers with more than 20 years of teaching experience were more likely to have undertaken CPD provided by the ESA than those with 2-5 years of experience.

Table 6.23: A comparison of the providers of CPD by the types of the schools (mean scores)

(N=1201)	Elementary	Middle	High	Vocational	Special	F	Sig
My school	1.94	1.81	1.66	1.97	1.57	4.014	**
Other Schools	2.84	2.83	2.62	2.85	2.43	2.844	*
ESA	1.72	1.74	1.84	2.42	1.79	7.020	***
Private agencies	2.84	2.81	2.85	2.36	2.57	2.344	ns
College/ University	3.03	2.91	2.78	2.94	2.86	2.549	*
Other	2.00	1.82	2.00	0.00	1.00	0.523	ns

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 6.23 shows the mean scores for the providers of CPD as reported by teachers in different types of school where a rating of 1= often, 2= sometimes, 3= rarely, and 4= never. From this table, there were significant differences of the types of the schools with respect to the providers of CPD, including ESA, the schools, other schools, and college/university. Vocational teachers were less likely to have undertaken CPD provided by ESA, compared to those from elementary, middle, and high school teachers ($F(4, 1198) = 7.020, p = <.0005$). Moreover, high school teachers were more likely to have undertaken CPD than elementary teachers within the schools ($F(4, 1198) = 4.014, p = <.003$), other schools ($F(4, 1197) = 2.844, p = .023$), and college/university ($F(4, 1197) = 2.549, p = .038$).

6.7) The Resources Available for CPD

In this section, the resources available for CPD were analyzed in terms of the gender of the respondents, the years of teaching experience, and the types of the schools.

Table 6.24: A comparison of the resources available for CPD between male and female teachers (%)

(N=1201)	Strongly agree	Agree	Unsure	Disagree	Strongly disagree	t	sig
Sufficient time	23.6	60.2	12.1	3.8	0.3	-0.265	ns
Sufficient financial resources	18.6	54.2	17.9	8.1	1.3	-0.688	ns
Sufficient resources	18.0	59.3	15.3	6.5	0.8	-0.263	ns

*p<0.05, **p<0.01, ***p<0.001

Note: Your information between male and female teachers can be found in appendix H

Table 6.24 presents a comparison of the resources available for CPD for teachers. Teachers were asked their views concerning the resources available for CPD within school. Respondents were requested to rate whether they agreed or disagreed with the statement. Both male and female teachers tended to be satisfied with the resources available for CPD activities. They agreed rather than disagreed that they were fully supported with the time, budget, and other resources. It was indicated “strongly agreed” and “agreed” by the respondents that funding for CPD was sufficient for teachers (72.8%), and the schools also provided sufficient time (83.8%) and other resources (77.3%) for teachers to participate in CPD activities. There were no significant differences between the male and female teachers.

Only small numbers of teachers indicated that funding for CPD was too limited, and that the schools provided insufficient time and resources for teachers to work on CPD. Among the resources available for CPD, the teachers indicated that the financial resources were more of a concern to be insufficient more than time and other resources (Table 6.24).

Table 6.25: A comparison of the resources available for CPD by years of teaching experience (mean scores)

(N=1201)	< 1	2-5	6-10	11-15	16-20	>20	F	Sig
Sufficient time	2.14	1.96	1.97	2.01	2.04	1.94	0.813	ns
Sufficient financial resources	2.36	2.13	2.21	2.28	2.33	2.15	1.570	ns
Sufficient resources	2.25	2.13	2.20	2.19	2.15	2.07	1.168	ns

*p< .05, **p< .01, ***p< .001

Table 6.25 shows the mean scores for the resources available for CPD to teachers with different lengths of teaching experience where a rating of 1= strongly agree, 2= agree, 3= unsure, 4= disagree, and 5= strongly disagree. There were no significant differences between the resource available for CPD and the years of teaching experience. Teachers across all levels of experiences were likely to be supported by sufficient time, finance, and other resources.

Table 6.26 shows the mean scores for the resources available for CPD to teachers in different types of school where a rating of 1= strongly agree, 2= agree, 3= unsure, 4= disagree, and 5= strongly disagree. There were no significant differences between the resources available for CPD and the types of the schools. Teachers across various types of schools were likely to be supported by sufficient time, financial, and resources. However, as indicated by the interviews of headteachers and teachers, there was a lack of financial and resources among those from small public schools rather than large public and private schools.

Table 6.26: A comparison of the resources available for CPD by the types of the schools (mean scores)

(N=1201)	Elementary	Middle	High	Vocational	Special	F	Sig
Sufficient time	2.00	1.97	1.82	2.15	1.79	2.197	ns
Sufficient financial resources	2.22	2.19	2.02	2.33	2.29	1.568	ns
Sufficient resources	2.14	2.15	1.99	2.24	2.43	1.600	ns

*p< .05, **p< .01, ***p< .001

6.8) The Ways to Acquire Skills and Knowledge

In this section, the ways in which teachers acquire skills and knowledge were analyzed in terms of the gender of the respondents, the years of teaching experience, and the types of the schools. Teachers were asked the statements concerned with the ways through which they acquire skills and knowledge and were requested to rate whether they agreed or disagreed with the statement. They reported that they acquire new knowledge and skills in many ways.

Table 6.27 shows that most teachers agreed or strongly agreed that skills and knowledge were acquired during induction to the job (97.6%) and by participating in the CPD activities (96.9%). They also agreed and strongly agreed that skills were acquired by self-study (96.3%) and from the colleagues (93.3%). Most teachers also used their own time outside the schools for CPD, and have developed their skills further.

Table 6.27: A comparison of the ways in which male and female teachers acquire skills and knowledge (%)

(N=1200)	Strongly agree	Agree	Unsure	Disagree	Strongly disagree	t	sig
Skills are covered during induction to the job	44.3	53.3	1.8	0.6	0.1	1.586	ns
Skills are acquired by participating in the training programs / activities	44.8	52.1	2.8	0.2	0.1	1.293	ns
Skills are acquired through self-study such as reading books or using library	38.5	57.8	3.5	0.2	0.1	2.586	**
I use my own time, outside my current work commitments, for my professional development	21.1	67.0	10.1	1.6	0.3	0.717	ns
I picked up the skills from colleagues or another member of staff in the department	24.2	69.1	6.1	0.3	0.1	1.220	ns
I already had the skills and have developed these skills further	28.7	60.0	9.7	1.6	0.1	1.556	ns
Other	0.7	0.2	0.0	0.0	0.0	-2.049	ns

*p<0.05, **p<0.01, ***p<0.001

Note: Your information between male and female teachers can be found in appendix I

In most of the cases, there were no differences between male and female teachers in order to acquire the skills and knowledge. However, there was a significant difference between male and female teachers in acquiring skills and knowledge through self-study such as reading books or using library. The data

indicated that a higher proportion of female teachers were likely to acquire new knowledge and skills by reading books than male teachers ($p = .01$) (Table 6.27).

Table 6.28: A comparison of the ways in which teachers with difference levels of experiences acquire skills and knowledge (mean scores)

(N=1200)	< 1	2-5	6-10	11-15	16-20	>20	F	Sig
Skills are covered during induction to the job	1.61	1.58	1.57	1.58	1.67	1.58	0.501	ns
Skills are acquired by participating in the training programs / activities	1.61	1.66	1.60	1.60	1.53	1.55	1.306	ns
Skills are acquired through self-study such as reading books or using library	1.69	1.69	1.58	1.68	1.68	1.65	0.946	ns
I use my own time, outside my current work commitments, for my professional development	1.89	1.99	1.84	1.88	1.96	1.95	1.527	ns
I picked up the skills from colleagues or another member of staff in the department	1.75	1.84	1.80	1.83	1.83	1.83	0.277	ns
I already had the skills and have developed these skills further	1.94	1.90	1.81	1.80	1.83	1.84	0.784	ns
Other	0.00	2.00	1.00	0.00	2.00	1.17	3.776	ns

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 6.28 shows the mean scores for the ways in which teachers with different lengths of teaching experience acquire skills and knowledge where a rating of 1= strongly agree, 2= agree, 3= unsure, 4= disagree, and 5= strongly disagree. There were no significant differences between the acquisition of knowledge and the years of teaching experience. Teachers across all levels of experiences were similar in the ways in which they acquire skills and knowledge.

Table 6.29: A comparison of the ways in which teachers with difference types of the schools acquire skills and knowledge (mean scores)

(N=1200)	Elementary	Middle	High	Vocational	Special	F	Sig
Skills are covered during induction to the job	1.61	1.57	1.58	1.61	1.50	0.368	ns
Skills are acquired by participating in the training programs / activities	1.57	1.58	1.64	1.76	1.57	1.171	ns
Skills are acquired through self-study such as reading books or using library	1.66	1.64	1.65	1.79	1.71	0.614	ns
I use my own time, outside my current work commitments, for my professional development	1.95	1.89	1.97	1.82	2.00	1.034	ns
I picked up the skills from colleagues or another member of staff in the department	1.82	1.84	1.78	1.91	1.79	0.539	ns
I already had the skills and have developed these skills further	1.87	1.79	1.86	1.91	1.79	0.836	ns
Other	1.40	1.25	1.00	0.00	0.00	0.476	ns

*p< .05, **p< .01, ***p< .001

Table 6.29 shows the mean scores for the ways in which teachers from different types of school acquire skills and knowledge where a rating of 1= strongly agree, 2= agree, 3= unsure, 4= disagree, and 5= strongly disagree. From this table, there were no significant differences between the acquisition of knowledge and the types of the schools. Teachers across all types of the schools were similar in the ways in which they acquire skills and knowledge.

6.9) The New Knowledge and Skills Used by Teachers

In this section, the new knowledge and skills used by teachers were analyzed in terms of the gender of the respondents, the years of teaching experience, and the types of the schools. Teachers were asked the statements concerned with the used of the new knowledge and skills and were requested to rate whether they agreed or disagreed with the statement. They reported that they have used the new knowledge and skills in many ways.

Table 6.30: A comparison of the new knowledge and skills used by male and female teachers (%)

(N=1201)	Strongly agree	Agree	Unsure	Dis-agree	Strongly disagree	t	sig
I have gained new knowledge and skills but I am not using them	7.6	17.3	7.8	49.0	18.4	-3.367	**
I am attempting to use new knowledge and skills but I am not yet comfortable in using them	8.2	30.1	15.5	37.6	8.7	-2.215	*
I routinely use the new knowledge and skills	36.3	60.1	3.0	0.5	0.1	1.754	ns
I modify what I have learned to fit into the classroom	36.6	59.1	4.1	0.2	0.1	2.160	*
I coordinate use with colleagues to gain greater impact	26.9	66.6	6.2	0.4	0.0	1.016	ns
I re-evaluate quality of use of my skills and modify to increase impact	29.6	61.7	8.0	0.6	0.1	1.155	ns
Other	0.5	0.2	0.0	0.0	0.0	0.866	ns

*p<0.05, **p<0.01, ***p<0.001

Note: Your information between male and female teachers can be found in appendix J

Table 6.30 presents a comparison of the new knowledge and skills used by teachers. The majority of respondents indicated that they routinely use the new knowledge and skills they had acquired as a result of participating in CPD (96.4%). Moreover, 95.7% of respondents agreed that they modify what they have learned to fit into the classroom, and 93.5% of respondents coordinate use with colleagues to gain greater impact. 67.4% of respondents disagreed that they had not used the new knowledge and skills in the classroom practice, and 46.3% of respondents disagreed that they were not comfortable in using new knowledge and skills for teaching practices.

Most of the teachers who reported that they have gained new skills and knowledge from CPD activities but not using them were male more than female ($p = .001$). A majority of male more than female teachers also reported that they were attempting to use new knowledge and skills but not yet comfortable in using them ($p = .027$). Female teachers were more familiar in using new skills and knowledge in the classroom than male teachers. They reported that they modify what they have learned to fit into the classroom ($p = .031$) (Table 6.30).

Table 6.31 shows the mean scores for the ways in which teachers with different lengths of teaching experience use the new skills and knowledge where a rating of 1= strongly agree, 2= agree, 3= unsure, 4= disagree, and 5= strongly disagree. This table shows that teachers with different levels of experiences were likely to use new knowledge and skills acquired through CPD in different ways. There was a significant difference between the levels of experience and the way in which teachers share ideas and practices with their colleagues ($F(5, 1196) = 3.098$, $p = .009$).

Table 6.31: A comparison of the ways in which teachers with difference levels of experience use the new knowledge and skills (mean scores)

(N=1201)	< 1	2-5	6-10	11-15	16-20	>20	F	Sig
I have gained new knowledge and skills but I am not using them	3.56	3.50	3.39	3.56	3.57	3.59	0.812	ns
I am attempting to use new knowledge and skills but I am not yet comfortable in using them	2.83	3.00	3.01	3.20	3.09	3.14	1.194	ns
I routinely use the new knowledge and skills	1.83	1.68	1.74	1.77	1.62	1.63	2.662	*
I modify what I have learned to fit into the classroom	1.86	1.70	1.76	1.69	1.67	1.63	2.368	*
I coordinate use with colleagues to gain greater impact	1.89	1.89	1.84	1.84	1.72	1.74	3.098	**
I re-evaluate quality of use of my skills and modify to increase impact	1.92	1.83	1.83	1.86	1.89	1.72	2.776	*
Other	-	1.50	-	-	-	1.17	0.750	ns

* $p < .05$, ** $p < .01$, *** $p < .001$

Post hoc tests (Bonferonni) indicated that there was a significant difference between teachers with 2-5 years of experience and teachers with more than 20 years of experience. Teachers with more than 20 years of experience were more likely to share their ideas and practices acquired through CPD with their peers compare to those teachers with 2-5 years of teaching experience. The mean scores also indicated that teachers with more experience were more likely to use the new knowledge and skills ($F(5, 1196) = 2.662, p = .021$), modify what they have learned to fit into the classroom ($F(5, 1195) = 2.368, p = .038$), and re-evaluate quality of use of their skills and modify to increase impact ($F(5, 1196) = 2.776, p = .017$) than less experienced teachers (Table 6.31).

Table 6.32: A comparison of the ways in which teachers with difference types of the schools use the new knowledge and skills (mean scores)

(N=1201)	Elementary	Middle	High	Vocational	Special	F	Sig
I have gained new knowledge and skills but I am not using them	3.55	3.53	3.42	3.58	3.86	0.627	ns
I am attempting to use new knowledge and skills but I am not yet comfortable in using them	3.10	3.08	3.04	2.91	3.43	0.577	ns
I routinely use the new knowledge and skills	1.69	1.65	1.63	1.85	1.71	1.266	ns
I modify what I have learned to fit into the classroom	1.69	1.66	1.66	1.76	1.71	0.294	ns
I coordinate use with colleagues to gain greater impact	1.81	1.79	1.75	1.94	1.79	0.799	ns
I re-evaluate quality of use of my skills and modify to increase impact	1.79	1.80	1.82	1.97	1.71	0.802	ns
Other	1.17	2.00	1.00	-	-	2.000	ns

*p< .05, **p< .01, ***p< .001

Table 6.32 shows the mean scores for the ways in which teachers from different types of school use the new skills and knowledge where a rating of 1= strongly agree, 2= agree, 3= unsure, 4= disagree, and 5= strongly disagree. This table shows that there were no significant differences between the types of the schools and the ways in which teachers use their new knowledge and skills. Teachers across all types of the schools were similar in the ways in which they use their new knowledge and skills acquired from CPD.

6.10) The Effectiveness of CPD

In this section, the effectiveness of CPD activities were analyzed in terms of the gender of the respondents, the years of teaching experience, and the types of the schools.

Table 6.33: A comparison of the effectiveness of CPD reported by male and female teachers (%)

(N=1201)	Highly effective	Somewhat effective	Somewhat ineffective	In-effective	Never participated in this type of activity	t	sig
Single workshop / Short courses	24.7	50.1	21.1	3.0	1.1	-1.675	ns
Workshop series / Long courses	71.5	25.1	2.6	0.3	0.5	2.080	*
Conferences / Lectures	44.2	43.6	10.8	1.2	0.3	1.203	ns
College coursework	36.3	38.4	10.8	1.9	12.5	4.074	***
Peer coaching / Observation	32.4	55.2	9.6	1.7	1.2	1.380	ns
Mentoring / Critical friendships	44.1	47.8	7.1	0.8	0.3	0.791	ns
Study groups / Group activities	60.2	35.1	3.9	0.5	0.3	3.202	**
Work-shadowing	55.5	38.2	5.2	0.7	0.5	3.629	***
Collaborative learning	66.0	29.7	3.6	0.5	0.3	2.973	**
Networks	36.4	51.9	8.7	1.6	1.4	3.564	***
Teleconference / Video	51.2	42.5	4.7	0.8	0.8	3.663	***
Action research	59.8	31.6	4.8	1.3	2.5	4.050	***
Self-directed study	70.0	27.5	1.9	0.5	0.1	3.693	***
Other	1.0	0.2				0.425	ns

*p<0.05, **p<0.01, ***p<0.001

Note: Your information between male and female teachers can be found in appendix K

Table 6.33 shows a comparison of the effectiveness of CPD reported by teachers. Respondents were asked to rate the effectiveness of the listed types of CPD. Most CPD activities were rated as “highly effective” or “somewhat effective.” The activities that were considered the most highly effective by the teachers were workshop series/long courses (71.5%), self-directed study (70%), and collaborative learning (66.0%). The results support the literature that effective CPD should involve experiential and collaborative learning opportunities and that short courses and conferences are less effective compare to any other types of CPD.

Teachers designated very few activities as “ineffective” or “somewhat ineffective.” Taking the ineffective and somewhat ineffective categories together, single workshop/short courses (24.1%) and conferences/lectures (12%) were most likely to be judged ineffective by teachers. However, possibly because of time constraints and because of what was being offered by the schools and other organizations, conferences/lectures were the type of CPD activities that teachers were most likely to have experienced (Table 6.15).

Most CPD activities were rated as “highly effective” by female more than male teachers. These activities were: workshop series/long courses ($p = .038$), college course ($p < .0005$), study groups/group activities ($p = .001$), work shadowing ($p < .0005$), collaborative learning ($p = .003$), networks ($p < .0005$), teleconference/video ($p < .0005$), action research ($p < .0005$), and self-directed study ($p < .0005$) (Table 6.33).

Table 6.34: A comparison of the effectiveness of CPD reported by teachers with different levels of experiences (mean scores)

(N=1201)	< 1	2-5	6-10	11-15	16-20	>20	F	Sig
Single workshop / Short courses	1.85	2.03	2.03	2.15	2.02	1.99	1.271	ns
Workshop series / Long courses	1.39	1.32	1.30	1.35	1.30	1.30	0.370	ns
Conferences / Lectures	1.77	1.75	1.72	1.68	1.56	1.67	1.238	ns
College coursework	1.97	1.72	1.72	1.77	1.69	1.77	0.805	ns
Peer coaching / Observation	1.83	1.84	1.74	1.78	1.80	1.81	0.553	ns
Mentoring / Critical friendships	1.56	1.67	1.62	1.65	1.61	1.66	0.354	ns
Study groups / Group activities	1.50	1.49	1.42	1.42	1.52	1.42	1.024	ns
Work-shadowing	1.43	1.56	1.54	1.42	1.54	1.49	1.208	ns
Collaborative learning	1.39	1.45	1.40	1.42	1.35	1.34	1.269	ns
Networks	1.59	1.82	1.81	1.72	1.76	1.72	1.457	ns
Teleconference / Video	1.71	1.58	1.59	1.63	1.55	1.47	2.815	*
Action research	1.55	1.55	1.40	1.44	1.45	1.44	1.453	ns
Self-directed study	1.33	1.38	1.32	1.29	1.36	1.31	0.837	ns
Other	-	1.25	1.00	1.00	1.00	1.17	0.186	ns

*p< .05, **p< .01, ***p< .001

Table 6.34 shows the mean scores for the effectiveness of CPD reported by teachers with different length of teaching experience where a rating of 1= highly effective, 2= somewhat effective, 3= somewhat ineffective, 4= ineffective. Teachers

across all levels of experiences reported similar thoughts about the effectiveness of various types of CPD. There was only one slight significant difference between their thoughts of teleconference/video and teachers' level of experiences ($F(5, 1186) = 2.815, p = .016$). The mean scores indicated that teachers with many years of teaching experience were more likely to reported that teleconference/video were effective than those teachers with less experience.

Table 6.35: A comparison of the effectiveness of CPD reported by teachers with different types of the schools (mean scores)

(N=1201)	Elementary	Middle	High	Vocational	Special	F	Sig
Single workshop / Short courses	2.05	1.97	2.00	2.09	2.00	0.768	ns
Workshop series / Long courses	1.34	1.28	1.26	1.41	1.29	1.160	ns
Conferences / Lectures	1.66	1.73	1.71	1.91	1.29	2.480	*
College coursework	1.78	1.69	1.78	1.89	1.83	1.045	ns
Peer coaching / Observation	1.78	1.83	1.79	2.00	1.71	1.019	ns
Mentoring / Critical friendships	1.63	1.66	1.61	1.94	1.43	2.278	ns
Study groups / Group activities	1.44	1.43	1.47	1.79	1.36	3.010	*
Work-shadowing	1.49	1.53	1.53	1.69	1.43	1.006	ns
Collaborative learning	1.38	1.36	1.40	1.67	1.29	2.213	ns
Networks	1.72	1.77	1.78	2.00	1.71	1.559	ns
Teleconference / Video	1.51	1.55	1.62	1.88	1.50	3.140	*
Action research	1.45	1.46	1.47	1.84	1.36	2.796	*
Self-directed study	1.33	1.30	1.34	1.52	1.36	1.227	ns
Other	1.10	1.50	1.00	-	-	1.235	ns

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 6.35 shows the mean scores for the effectiveness of CPD reported by teachers from different types of school where a rating of 1= highly effective, 2= somewhat effective, 3= somewhat ineffective, 4= ineffective. In most cases, there were no significant differences between the types of schools with respect to the effectiveness of CPD. However, there were slight significant differences of the effectiveness of the 4 types of CPD, including conferences/lectures ($F(4, 1194) = 2.480, p = .042$), study groups/group activities ($F(4, 1192) = 3.010, p = .017$), teleconference/video ($F(4, 1186) = 3.140, p = .014$), and action research ($F(4, 1167) = 2.796, p = .025$). Vocational teachers were more likely to rate that these four types of CPD as highly effective than elementary and middle school teachers.

6.11) The Outcomes Gained as a Result of CPD

In this section, the outcomes gained as a result of CPD activities was analyzed in terms of the gender of the respondents, the years of teaching experience, and the types of the schools.

Table 6.36 shows a comparison of the outcomes gained as a result of CPD activities reported by teachers. The survey data were consistent with the qualitative data (see Chapter 7) with regard to the teachers' and headteachers' perceptions of CPD that participation in CPD provided opportunities for teachers to learn and grow and make an impact on student learning. The study found that teachers judged that there was a positive relationship between CPD and the change in teaching practice (93.5%), and positive changes for knowledge and skills improvement (93.1%) (Table 6.36).

Table 6.36: A comparison of the outcomes gained as a result of CPD activities reported by male and female teachers (%)

(N=1201)	Changed Significantly	Somewhat changed	Not changed	t	sig
Positive changes in my attitudes / views	87.9	11.4	0.7	0.234	ns
Positive changes in my teaching practice	93.5	6.4	0.1	1.773	ns
Knowledge / skills improvement	93.1	6.9	0.0	2.154	*
Organizational changes / overall school improvement	88.1	11.5	0.4	2.810	*
Increased collaboration with colleagues	83.0	16.3	0.7	2.029	*
Improved performance or behaviors of the students	76.3	21.3	2.3	0.385	ns
Increased learning outcomes of the students	89.3	10.5	0.3	3.044	*
Other	0.7	0.0	0.0	-	ns

*p<0.05, **p<0.01, ***p<0.001

Note: Your information between male and female teachers can be found in appendix L

More female than male teachers indicated that CPD had a beneficial impact for knowledge and skills improvement ($X^2= 5.722$, $df=1$, $p= .017$) and overall school improvement ($X^2=12.778$, $df=2$, $p= .002$). They also felt that CPD had a beneficial impact not only in enhancing their knowledge and teaching practices, but also in improving the learning outcomes of the students ($X^2=12.098$, $df=2$, $p=.002$). The vast majority of the respondents (89.3%) indicated that their participation in CPD had an impact on improving student learning, and 76.3% felt that CPD has had an impact on improving student behaviours and performance (Table 6.36).

The benefits of the CPD programs were not limited to enhancing teaching and student knowledge. Many teachers also indicated that they benefits from the CPD in terms of change in attitudes and views (87.9%). Thus, it appears that CPD could improve teachers' perceptions regarding how well they do their jobs as educators, increased collaboration with colleagues (83%), and benefits for overall school improvement (88.1%) (Table 6.36).

Table 6.37: A comparison of the outcomes gained as a result of CPD activities reported by teachers with difference levels of experiences (mean scores)

(N=1201)	< 1	2-5	6-10	11-15	16-20	>20	F	Sig
Positive changes in my attitudes / views	1.19	1.16	1.12	1.15	1.15	1.10	1.539	-
Positive changes in my teaching practice	1.03	1.08	1.06	1.09	1.09	1.05	1.115	-
Knowledge / skills improvement	1.03	1.06	1.07	1.10	1.07	1.06	0.699	-
Organizational changes / overall school improvement	1.14	1.19	1.12	1.13	1.11	1.09	3.082	**
Increased collaboration with colleagues	1.22	1.21	1.16	1.23	1.18	1.14	1.653	-
Improved performance or behaviors of the students	1.28	1.31	1.25	1.28	1.22	1.24	0.912	-
Increased learning outcomes of the students	1.06	1.11	1.12	1.11	1.15	1.10	0.605	-
Other	-	1.00	-	-	-	1.00	-	-

*p< .05, **p< .01, ***p< .001

Table 6.37 shows the mean scores for the outcomes gained as a result of CPD activities with different lengths of teaching experience where a rating of 1= changed significantly, 2= somewhat changed, and 3= not changed. In most cases there were no significant differences between teachers with difference levels of experience and the outcome gained as a result of CPD. However, there was a significant difference between the organizational changes/overall school improvement and the level of experience ($F(5, 1196) = 3.082, p = .009$). Post hoc tests indicated that teachers with more than 20 years of experience were likely to rate the overall school improvement as an outcome gained by CPD than teachers with 2-5 years of experience.

Table 6.38: A comparison of the outcomes gained as a result of CPD activities reported by teachers with difference types of the schools (mean scores)

(N=1201)	Elementary	Middle	High	Vocational	Special	F	Sig
Positive changes in my attitudes / views	1.13	1.12	1.10	1.27	1.21	1.899	ns
Positive changes in my teaching practice	1.06	1.06	1.10	1.12	1.00	1.566	ns
Knowledge / skills improvement	1.06	1.08	1.06	1.12	1.00	0.906	ns
Organizational changes / overall school improvement	1.11	1.13	1.12	1.24	1.14	1.253	ns
Increased collaboration with colleagues	1.17	1.20	1.10	1.30	1.21	2.100	ns
Improved performance or behaviors of the students	1.24	1.29	1.29	1.24	1.29	0.822	ns
Increased learning outcomes of the students	1.10	1.12	1.10	1.18	1.07	0.640	ns
Other	1.00	1.00	1.00	-	-	-	ns

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 6.38 shows the mean scores for the outcomes gained as a result of CPD activities with different types of school where a rating of 1= changed significantly, 2= somewhat changes, and 3= not changed. There were no significant differences between the types of the schools and the thought of the outcomes gained as a result of CPD by teachers. Teachers across all types of schools were satisfied with the effectiveness and the outcomes gained from CPD.

6.12) Qualitative Responses to the Open-ended Questions

In addition to the questionnaires given to the participants in this study, there were two open-ended questions in the teachers' survey. Many participants responded to these questions. There were various comments made by the teachers. This section will present a summary of the analysis of the qualitative data from the open-ended questions. These questions were:

1. What do you think should be done to increase the opportunities for CPD?
2. Are there any other comments you wish to make about CPD?

Q1: *What do you think should be done to increase the opportunities for CPD?*

Table 6.39: Ways to increase opportunities for CPD as suggested by teachers

Teachers' comments	N	%
a) Contents and types	236	42.0
b) Funds and resources	217	38.7
c) Survey and evaluation	84	15.0
d) Opportunities for all	67	11.9
e) Support and motivation	30	5.3

Note: Some of the respondents gave more than one answer

Table 6.39 shows the number of respondents who suggested ways in which to increase the opportunities for CPD. Out of the 1,201 teachers surveyed, 561 (46.8%) teachers responded to this question.

a) *Contents and types:* From the total of 561 teachers who responded, 236 (42%) of teachers reported that the types and content of CPD should be interesting and should relate to their needs. This will increase their enthusiasm to participate in CPD. The majority of teachers expressed their preferences to acquire new computer technology skills, teaching pedagogy and techniques, and participate in the content area that is related to their subject matters. They were interested in some of the specific content areas, such as how to conduct a research, how to analyze and evaluate the outcomes of the students, and curriculum planning. In addition, teachers were interested in some of the specific types of CPD, such as observing teaching activities, networking, field trips, and work experiences.

“The content and structure of CPD should be appropriate to the teachers’ needs and preferences.”

“Some of the content of CPD is not explicit, and therefore the content and structure should be dedicated and specific to subject areas. This will encourage teachers to participate in CPD.”

b) *Funds and resources:* Funds and resources were the next most common concern reported by teachers as a way of increasing opportunities for CPD. Two

hundred and seventeen teachers (38.7%) suggested that there should be separate budget and resources available for CPD. If there are no funds and resources available, the teachers will not be able to attend CPD and the programs will be diminished. Teachers also commented that appropriate facilities such as libraries, computers, reference books and materials, and/or journal publications should be available for teachers participating in CPD. In this case, this will allow them to engage in self directed learning when and/or where appropriate. Additionally, some teachers suggested that there should be scholarships available for teachers for further studies. An award for teachers should also be considered.

“I can’t attend CPD because there are no funds and resources available to support it. There were no substitute teachers to cover my class whilst I attend CPD. Hence, I do not want to attend.”

“Adequate and sustained funding for CPD should be provided to teachers by the Thai government. Opportunities to attend CPD are not available due to no fund!”

c) *Survey and evaluation*: Survey and evaluation were the third concern of teachers. Out of 561, 84 (15%) teachers suggested that CPD activities should be driven by the analyses of the survey or interviews from different teachers. Teachers’ views were that, such analyses would define what teachers want to learn and/or need to know. The analysis from the survey or interviews conducted will help to create responsive programs which relates to the teachers’ needs. Teachers suggested that they would be more motivated if the headteachers involve or consult them in

identifying what they need to learn. This engagement increases teachers' motivation and commitment to participate in CPD and increase the likelihood that what they are learning would be relevant to their needs.

“The schools should conduct a survey prior to the CPD to find out the needs of the participating teachers.”

Additionally, teachers reported that in the past, some of the CPD courses were not effective and were not cost-effective. This is because there was no evaluation of CPD being conducted to ensure that teachers bring back ideas to the schools or change their teaching practice. It was also suggested by some teachers that an outside organization should carry out the evaluation rather than being carried out by the schools.

“The evaluation and feedback for CPD should be conducted to assess changes in teaching practice and changes in student learning and outcomes.”

d) *Opportunities for all:* Teachers reported that opportunities for CPD should be available to all teachers, not just selected few. Sixty seven (11.9%) teachers commented that some teachers in certain subject matters were given more opportunities to attend CPD than others. Therefore, all teachers should be given equal opportunities to participate in CPD.

“CPD should be available to all of us. The school should give more opportunities to those teachers who rarely participate in CPD.”

e) *Support and motivation*: Finally, thirty (5.3%) teachers reported that the support and encouragement from headteachers is likely to increase the teachers' commitment to CPD. These teachers commented that effective CPD should have a headteacher who has a strong leadership in order to implement and support the changes. Headteachers should encourage, support, and motivate teachers to be committed to CPD to progress their career development. Some teachers also felt that they should either be rewarded or given the opportunities for career progression by the headteachers as a result of self development. This will motivate teachers in their learning.

“Headteacher should give us encouragement to participate in CPD.”

“Opportunities to progress in career development should be encouraged by the headteacher.”

Q2: *Are there any other comments you wish to make about CPD?*

Table 6.40: Comments made by teachers concerning CPD

Teachers' comments	N	%
a) Continuous learning	171	39.3
b) Appropriate length and time for CPD	95	20.2
c) Opportunities for practice, research, and reflection	72	15.3
d) Expert presenters	68	14.4
e) Negative effects to students	49	10.4
f) Monotonous	18	3.8
g) Exchange of ideas	7	1.5

Note: Some of the respondents gave more than one answer

Table 6.40 shows the number of respondents who made additional comments. Out of the 1,201 teachers surveyed, 471 (39.3%) gave additional comments regarding CPD.

a) *Continuous learning*: The majority of teachers who responded (36.3%) reported that CPD should be a continuous and long term processes. Teachers commented that CPD is an element of the continuous improvement of teachers as it provides opportunities to develop knowledge and skills. It would make them more confident in their teaching. Additionally, teachers also commented that CPD programs should be sustained over an extended period of time and involve a significant number of hours. Some teachers recommended that at least 2 times per semester to participate in CPD programs should be allowed.

“CPD is not a one time seminar. It should be an ongoing process.”

b) *Appropriate length and time for CPD*: Ninety five teachers (20.2%) said that CPD should take place during the school holidays, at weekends, or during lunch breaks in order not to affect the students. The teachers suggested CPD should have dedicated time; regular meetings or seminars should be held at least 1-2 times per month. Moreover, the length of CPD should be between three to five days. However, some teachers also complained that they already have a full schedule and have to do too many tasks.

“I prefer CPD to take place over the weekends rather than during school hours.”

c) *Opportunities for practice, research, and reflection*: Seventy two teachers (15.3%) commented that CPD should include the opportunities for practice, research, and reflection. Teachers said that continuing professional development session should be hands-on learning and meaningful experiences. The learning events should be meaningful to allow the participants to pick up valuable information, acquire new knowledge and teaching techniques, and exchange their ideas with peers, as well as reflect on what they have learnt. Additionally, CPD programs should help teachers employ reflective activities so that they can use the new knowledge and evaluate what they have learnt in their teaching practice.

“CPD activities should model reflective practices.”

d) *Expert presenters*: Sixty eight teachers (14.4%) preferred to participate in CPD provided by an expert presenter. Teachers reported that the presenters should be an expert and knowledgeable in the subject that they present. Furthermore, the presentation should be of high standard, consist of adequate materials and equipment. The presentation should also be interesting and facilitating active learning.

“The trainers/lecturers should be knowledgeable and expert in the subject areas that they are training.”

“The participants should have the opportunities to be more actively involved in the CPD course and not just passive learning.”

e) *Negative effects to students*: Forty nine teachers (10.4%) complained that CPD has a negative effect on their students. Teachers reported that most of the time when they attend CPD it usually take place during the classroom hours. This has a negative effect to the students because that hour is then wasted, and students were not taught. Students are more likely to be told to use their time to read or do their home work.

“What can the students learn when there is no teacher to take my place whilst I am on a CPD course?”

f) *Monotonous*: Eighteen teachers (3.8%) quoted that CPD is monotonous. They complained that they have too much work to do already and do not want to attend too many CPD. Some of them commented that CPD should be more fun.

“CPD is boring. I don’t have time.”

g) *Exchange of ideas*: Finally, seven teachers (1.5%) reported that CPD required commitments from all members to exchange, introduce new ideas, and interact with one another. Teachers suggested that they should be allowed to work and learn from each other during and after the CPD programs. Planning with a colleague, peer coaching, observing a peer, or sharing with colleagues are some types of CPD commented by teachers. Talking and planning with colleagues provides the opportunity for teachers to build on one another’ experiences and share ideas together. Collaboration is one of the key elements in creating a community of teachers and

administrators within the school that can support improvement in teaching and learning over time.

“Teachers need opportunities to work with each other, plan and reflect with colleagues. We can learn more from one another if we work in a group when participating in CPD.”

Some teachers also suggested for those that attend CPD courses to bring back new ideas and knowledge and pass this on to their colleagues. They reported that some of the teachers were not able to exchange their learning with their colleagues after attending CPD.

“I think those teachers attending CPD should bring back what they have learnt and coach me and my colleagues.”

6.13) Conclusion

This chapter presents an analysis of the quantitative data. The first part of the analysis was about the characteristics of the survey sample of teachers in terms of gender, age, years of teaching experience, type of school, and subject taught. Then, the analysis was to do with the time for teachers to undertake CPD experiences, the types of CPD experiences by Thai teachers, the content of CPD activities, the providers of CPD, the resources available for CPD, the ways in which teachers acquire skills and knowledge, the use of new knowledge and skills by teachers, the effectiveness of CPD reported by teachers, and finally the outcomes gained as a result of CPD activities.

In each of the above sections, the analysis has been divided into three separate comparisons. Firstly, the comparison was between male and female teachers. Secondly, the comparison was to do with the levels of years of experience among teachers. Finally, the last comparison was to do with the differences among types of schools.

From the analysis of the quantitative data, most Thai teachers reported that the length of time, duration, and when they undertook CPD experiences were varied, however, most of the time the CPD took place during school hours. These Thai teachers also reported having experience a wide range of different types and content of CPD. These CPD activities were provided mostly by the Local Education Authority and the schools. There seems to be sufficient resources available to teachers. Teachers indicated that most of them were able to acquire new knowledge and skills when attending CPD and were able to take experiences learnt back to classroom. Teachers were satisfied with certain types of CPD and felt that some types of CPD were more effective than the others. They have positive views of CPD and felt that CPD benefits themselves, as well as the students and schools.

At the end of this chapter, I have also included the summary of the qualitative responses to the open ended questions. The results were somewhat in consistent with the analysis of the qualitative data in the next chapter. The next chapter is to analyze the analysis of the qualitative data in order to gain in depth information and support the data from this survey.

Chapter 7

Analysis of Qualitative Data

7.1) Introduction

This chapter presents an analysis of the interviews of fifteen headteachers and thirty teachers from various types of schools in urban and suburban areas in Chiang Mai, Thailand. Data were collected from tape recorded interviews conducted during 15 August to 28 September 2007 inclusive. This qualitative research was undertaken to provide an insight of the current situation of CPD that teachers have been experienced in Thailand, and further clarification and confirmation of some findings of the analysis of quantitative data in Chapter 6.

The first part of this chapter is the analysis of interviewing headteachers to explore the views of CPD, types of CPD that headteachers supported for their staff members, and roles that effective headteachers need to carry on to foster program implementation and improvement. The second part of this chapter is the analysis of interviewing teachers to explore the types and characteristics of CPD that they find most useful for improving their skills and competence. Both interviews of headteachers and teachers have been undertaken to present the results of the analyses according to the research questions of the study and themes that have emerged.

7.2) Interviewing Headteachers

Overall, a total of 15 headteachers were interviewed from a variety of schools. The sampling took account of the different types and sizes of school, including elementary, middle, high, and special schools. The contexts of these schools were widely different; some schools were located in small rural areas in Chiang Mai serving small number of students with small number of teaching staff. These students

usually come from the lower or middle class families. Where as other schools were located in urban and suburban areas in Chiang Mai serving large number of students who come from the middle class and upper middle class families.

There were ten male (67%) and five female (33%) headteachers from seven private and eight public schools. These headteachers were from two elementary schools, five middle schools, six high schools, and two vocational schools (see Table 7.1). The interviews were conducted individually with headteachers during the period of 15 August to 28 September in 2007, except in one school where joint interviews were carried out with headteacher and CPD coordinator.

Table 7.1: Headteachers involved in the interviews arranged by date of interviews

Headteachers	Sex	Type of Schools	Level of Schools
H1	Male	Private	High
H2	Female	Public	High
H3	Male	Public	Middle
H4	Male	Public	High
H5	Male	Public	Middle
H6	Female	Private	Elementary
H7	Male	Public	High
H8	Female	Private	High
H9	Male	Public	Vocational
H10	Female	Public	Middle
H11	Female	Private	Middle
H12	Male	Public	Elementary
H13	Male	Private	High
H14	Male	Private	Vocational
H15	Male	Private	Middle

All the interviews of headteachers took place in their offices and lasted about 30-45 minutes. The interview contained questions which aimed to capture headteachers' views and experiences of CPD in the schools, enhance understanding of the roles and responsibilities of the headteachers, explore the forms of CPD being offered to teachers, better understand characteristics of effective CPD, and explore the impact of CPD on teachers, schools, and the students.

Views of the benefits of CPD

Three headteachers expressed their positive attitude towards CPD. They argued that there were benefits of CPD for both teachers and students. For example, the impact of CPD was mentioned to improve teaching skills and student learning experiences.

“CPD is where teachers can develop their skills and knowledge to teach students effectively” (H4, Public High School).

Although other headteachers did not mention directly about the benefits of CPD, they were likely to support CPD for teachers and staff members. These headteachers reported that they support an opportunity for teachers to undertake CPD. These headteachers thought that CPD should be on offer to all staff members. They felt that they allocated time, money, and resources to support on going professional development. One headteacher indicated that *“it is necessary for every school to support teacher professional development. Investing in skills and teachers' competence can be achieved through CPD”* (H1, Private High School).

Headteachers gave many reasons for staff members to undertake CPD. Their reasons can be categorized into 3 groups: recognize the responsibility to provide CPD, enhance the quality of teachers, and enhance the quality of the overall education. Five headteachers recognized their responsibilities to support teachers in the training they need to do their jobs effectively and to progress in their careers. They were interested to motivate teachers to take advantages of the opportunities to develop themselves. Providing CPD is an important part for headteachers in creating effective learning communities. One headteacher reported that he is committed to support effective CPD for everyone in the school.

“I think CPD is beneficial to my teachers. It helps them to increase their knowledge and skills” (H15, Private Middle School).

Six headteachers had provided CPD to improve the quality of the staff members. They supported professional development to maintain and enhance teachers’ skills and abilities and to prepare them to keep them up to date. It was recognized by headteachers that CPD is necessary for teachers to be prepared for their work, reflect upon their teaching practices, and enhance their skills throughout their careers.

“CPD serves to strengthen the professional role of the teachers in the teaching profession” (H14, Private Vocational School).

The purpose of undertaking CPD could also be seen as to enhance the quality of education. Four headteachers focused on raising the standards of teaching and learning in the classroom through CPD. High quality teachers positively impact on meaningful teaching and learning experiences. These headteachers made their vision for the development of their staff members in order to improve student achievement. Statements included references to the students, for example, professional development activities are undertaken with a view *“to improve the learning experience for the students”* (H7, Public High School).

Roles and responsibilities for CPD

Headteachers reported that they had a significant role in promoting CPD to all staff members. They claimed that their main responsibility was to ensure that all staff members had access to a wide range of CPD opportunities. These headteachers provided opportunities to support CPD in a number of ways. For example, seven headteachers supported ongoing professional development and made suitable arrangements to meet the needs of all members within the available resources such as time and money.

“The most important part of my role is to provide training for staff members”

(H9, Public Vocational School).

Another role of the headteachers was to foster an effective CPD culture which is based on creating a learning environment. Eight headteachers reported that their role was to create an effective professional learning community. These headteachers encouraged staff members to learn from one another to develop their expertise. Time

was also provided for reflection on teaching practice to support individuals in the workplace.

“My role is to lead a professional community that is conducive to learning”

(H13, Private High School).

Six headteachers stated that they promoted and facilitated the staff members to develop, by allocating the budget and providing the learning resources and materials necessary for them to face the challenges of engaging in professional development. Even the schools which reported that their budget was limited had set aside funds for CPD activities. Resources necessary to create opportunities for learning were included in the training budgets, computers and networks, library; facilitate rooms, awards and scholarships, substitute teachers, books, and other materials to expand teachers’ understanding of content and pedagogy.

“Funds are made available for conferences, course work, and other experiences that would enable the staff members to grow professionally and enrich the classroom experience for students” (H2, Public High School).

Headteachers agreed that adequate time must be given for development. They made the time available for professional development both inside and outside the school day. Four headteachers stated that if the time for professional development occurs during the school day, support personnel such as substitutes or teacher assistants are used to release teachers from their classrooms to participate in CPD. Another two schools reported that they had already restructured available time for professional development during the school day. For example, in one private school,

the headteachers reported that teachers have a weekly allowance of 2-3 hours for planning time and other professional development opportunities such as group meetings, faculty meetings, and conferences. These meetings are planned to provide meaningful opportunities for teacher learning and collaboration, and become times to talk about issues related to students, teaching, and learning.

“Teachers need scheduled blocks of time for working and learning together. By providing time allocations, teachers can spend time away from classroom teaching and perform other tasks” (H8, Private High School).

Headteachers provided teachers with opportunities to work in collaborative teams. Collaborative environments in the schools may result from multiple opportunities for teachers to work together on meaningful tasks. Seven headteachers supported and challenged teachers by grouping a set of teams for teachers on subject areas to share their ideas and thoughts. By learning together, the headteacher argued that trust among the staff could develop and they could contribute to one another’s success.

“I encourage teachers to work in groups to exchange information and observe the effective teaching strategies” (H11, Private Middle School).

Headteachers reported that decisions regarding the content and delivery of such professional development activities are made within the areas that need to be addressed to improve teaching skills and student learning. Headteachers drew on a wide range of evidence to decide the areas that most needed for the improvement.

This evidence included student test scores, observations of teaching, formal discussions with subject leaders, and surveys/interviews students.

Many headteachers observed classroom teaching to determine the areas of professional development that need to be addressed. They also discuss with subject leaders to identify staff's individual needs. The agreement from all headteachers suggested that professional development must be of a high quality experience which is supportive and responsive to an individual's needs. Most headteachers are trying to provide a wide range of programs and activities to support staff members with different needs and preferences. They consider a particular need of individual staff members when planning professional development activities in order to increase their enthusiasm. Nevertheless, headteachers in some schools reported that they were aware and focused upon the school's development needs and priorities.

“CPD activities were considered to support the aims of the schools” (H7, Public High School).

Four headteachers determined the areas of professional development that need to be addressed by looking at student test scores and focusing on what teachers can do to improve student achievement results. After the content was decided, headteachers select appropriate training programs for teachers. For example, one middle school headteacher would like to improve student mathematics test scores. As a result, the headteacher provided a training session for mathematic teachers to develop competence in content knowledge and acquire new instructional strategies to teach students effectively.

“Student test scores could be served as a source of data in designing the areas of professional development that need to be addressed” (H5, Public Middle School).

Headteachers reported that plans for professional development are made by all members of the organization in all roles. They enable all staff members to interact with the CPD team to identify the areas of need and development. This strategy contributed staff members to feel more value as one of a member in the school team. Deciding together the type of the programs, the contents of the programs, and scheduling of the programs allow staff members to shared responsibility and commitment.

“I involved the entire faculty in making important decisions, such as selecting the focus and content of professional development activities” (H6, Private Elementary School).

Other schools reported that they had built a CPD team to plan and carry out professional development activities to ensure that these activities would be effective and suitable for all staff members. The main responsibility for CPD suggested by these headteachers was to identify the content learning needs of both teachers and students that need to be addressed and to design a professional development activity to delivery to staff members.

“The CPD team collaborate with me to support and design professional development activities for teachers and staff in the school” (H1, Private High School).

Types and content of CPD

Headteachers reported the types of CPD activities being offered to teachers both within and outside of the schools. They emphasized the importance to provide various types of CPD to staff members in order to meet the needs of individual teachers, the schools, and the Education Service Area (ESA). As suggested by one headteacher from a private school, “a wide range of CPD activities were made available to teachers to meet their needs both within and outside of the school” (H13, Private High School).

Table 7.2: CPD activities available to teachers as indicated by headteachers

Activity	Number of Responses
Conferences / Seminars	15
Short courses	14
Workshops	12
Group activities / Collaborative learning	9
Action research	6
Observation / Peer coaching	4
Field trips / Visiting other schools	3
College coursework / Higher degree acquisition	2

Note: Interviewees could suggest more than one type of activity

Table 7.2 shows that there were various types of CPD activities available to teachers such as conferences, seminars, short courses, workshops, field trips, group meeting, peer observation, and teacher research projects. Most of the heads indicated more than one type of CPD activities being offered to school staff members. They

reported that, of these, the most common type of CPD activities undertaken by teachers were conferences/seminars (n=15), short courses (n=14), and workshops (n=12). These activities were available both within and outside of the schools. Group activities/collaborative learning (n=9) and action research (n=6) were the next most common types of CPD activities. These activities were available to staff members within schools. Other activities provided by the schools included observation/peer coaching, field trips/visiting other schools, and college coursework or work aimed at the acquisition of a higher degree.

Headteachers reported that teachers were given lots of opportunities to participate in CPD. Schools and ESA were the main providers for CPD activities. These results of findings are consistent with the results of the teachers' survey from the previous chapter, where teachers reported that they had experienced variety of CPD activities provided mainly by ESA (42.7%) and their own schools (39.8%) (Table 6.21).

“CPD activities provided to teachers by the ESA were conferences, seminars, and workshops. These activities were also available within the school. And, just recently, a group of mathematics teachers visited another school to observe good teaching practice” (H15, Private Middle School).

Another headteacher also reported that a variety of CPD activities were available for teachers. These CPD experiences cover all forms of teachers' professional learning, both formal and informal, within and out of school, and self-directed and team-learning. Please note that the responses for these headteachers (and teachers) in the main study is differentiated from the pilot study since the interviewing

participants are briefly told at the beginning of the interviews to consider all types of CPD activities whether formal or informal.

“Many types of CPD, not just limited to short courses or seminars, were offered to teachers. Group discussion, observation, field trips were examples of opportunities provided to teachers within the school” (H8, Private High School).

Although there were many types of CPD provided both by the schools and ESA, not all teachers engaged in these activities all the time. Teachers in different types of schools or teachers with different characteristics had experience of different types of CPD activities. According to headteachers, teachers engaged in CPD activities in different ways, depending on their personal and professional role, financial and family circumstances, the schools, ESA, and the time and resources from the government allocated to the schools. One headteacher from a private school reported that the types of CPD activities in which teachers become involved differ, depending on their years of teaching experience. For example, *“newly teachers appear to be involved in job shadowing and collaborative working, whereas experienced teachers appear to be involved in the subject related activities, conferences, and study visits”* (H6, Private Elementary School).

Some headteachers said that their teachers experience a narrow range of CPD activities due to many reasons. These headteachers, normally from small public schools, reported barriers to CPD such as limited funding, lack of supply teachers, and lack of available information on CPD opportunities. One headteacher reported that *“it can be difficult to provide all opportunities available to teachers since funds are*

limited for CPD activities” (H12, Public Elementary School). Another head also reported that *“there is a lack of a specialist or expert to provide information on CPD”* (H3, Public Middle School). Finally, a headteacher from a public middle school said that *“one of the reasons for low involvement in CPD is the non-availability of supply teachers or substitute teachers to cover the classroom”* (H10, Public Middle School).

Table 7.3: The content of CPD activities available to teachers as indicated by headteachers

Content Areas	Number of Responses
Subject areas of teaching	15
Teaching techniques	13
Curriculum	8
Classroom management	5
Use of ICT	4

Note: Interviewees could suggest more than one type of activity

Table 7.3 presents the content of CPD activities available to teachers as indicated by headteachers. Headteachers were most likely to have provided CPD that focused on the content areas as curriculum, new methods of teaching, in depth study in the subject areas of teaching, with a minority reporting classroom management, and the use of computer and technology for classroom teaching. Five heads reported that teachers had experienced at least two themes/topics of CPD over the last year, and that the most common themes/topics of CPD that the majority of teachers had undertaken were focused on the content area of subject knowledge (n= 15). The next most common themes/topics of CPD for teachers were teaching techniques (n= 13) and curriculum (n= 8). The least common themes were classroom management (n= 5)

and the use of ICT (n= 4). These CPD themes provided to teachers were usually suggested and dictated by the schools and the ESA, not by the needs of the individual teachers.

The government also made available funding to support the CPD in the content areas of subject knowledge, the planning of the curriculum, use of ICT, and teaching and learning strategies. These CPD themes are similar to the themes provided by the schools as reported by the headteachers above. Some headteachers reported that their schools usually provide or select the topics/contents of CPD that are related to the needs of individual teachers.

“Each individual teacher should have opportunities to involve in CPD activity that is related to his/her needs. This is because different CPD themes will have different value for different people” (H14, Private Vocational School).

Characteristics of effective and ineffective CPD

Table 7.4: The characteristics of effective and ineffective CPD as reported by headteachers

Effective	Ineffective
a) Sufficient funds and resources	f) Lack of funds and resources
b) Contents and types	g) Short duration of time
c) Active learning and reflective thinking	h) Poor quality of delivery and lack of learning practice
d) Quality delivery and quality materials	
e) Opportunities for discussion and sharing ideas	

Headteachers reported their thoughts about the effectiveness of the types of CPD, which ones were effective and which ones were ineffective. Table 7.4 shows the common characteristics of effective and ineffective CPD that were identified by headteachers.

a) *Sufficient funds and resources*: The most frequently mentioned characteristic of effective CPD by headteachers was to have sufficient funds and adequate facilities. Many headteachers reported that they need sufficient funds to purchase learning materials for teachers and implement the CPD activity. Teachers required facilities such as computers, books, library, and private rooms to help them with their learning.

“It would be great if the funds were available to provide my teachers with proper facilities. This will help me to implement CPD more effectively” (H10, Public Middle School).

b) *Contents and types*: The contents and types of CPD were the next common characteristics of effective CPD. Headteachers reported that CPD was effective if the content is focused, challenging, informative, and appropriate to teachers. The content of CPD should also be relevant to the needs of the individual teachers and the schools. Some teachers need activities to improve their knowledge of subject-matter content, and some need opportunities to improve general pedagogy or teaching practices.

“The most valuable CPD is relevant to individual needs. It takes account of people’s experience, different backgrounds, prior knowledge, and focuses on improving subject knowledge and pedagogical skills” (H11, Private Middle School).

c) *Active learning and reflective thinking*: Headteachers also reported that effective CPD were activities that encouraged teachers in active learning and reflective thinking. Teachers need opportunities to become actively engaged in meaningful CPD and would benefit in acquiring skills and knowledge from active and positive learning activities rather than passive attendance.

“Effective CPD experiences are the ones that allow teachers to talk, think, try out new ideas, and be able to take ideas back to the classroom” (H9, Public Vocational School).

d) *Quality delivery and quality materials*: Headteachers felt that the quality of the presenters, the quality of materials, and the duration of the activity were important factors in effective CPD. They reported that CPD should be well-focused, well structured and presented by people who facilitated active learning. Appropriate length of CPD activities was also important in order to provide opportunities to teachers for a discussion, allowing them to try out new practices in the classroom. The importance of the expertise of the person delivering CPD was also stressed.

“CPD can be effective if it is delivered by an expert who provides notes and valuable information for teachers” (H3, Public Middle School).

“Sustained and intensive CPD is more likely to be of high quality rather than shorter CPD” (H4, Public High School).

e) *Opportunities for discussion and sharing ideas*: The least common characteristics of effective CPD identified by the headteachers were the perception of teachers discussing and sharing ideas among colleagues. Ten headteachers felt that most CPD activities were effective, especially activities that involve teachers in collaborative learning.

“Any activities that allow teachers for collaboration and sharing ideas among peer are effective. Teachers who work together are more likely to have opportunity to discuss concepts, skills, and problems that arises during their CPD experiences, which result in increasing teachers’ capacity to grow” (H11, Private Middle School).

“Sharing CPD experiences is an effective way to inform individual teachers of good practice, enable them to reflect on CPD activities, and allow them to use their learning experiences for classroom practices” (H6, Private Elementary School).

f) *Lack of funds and resource*: Headteachers reported that the lack of funds and resources were the most common characteristics of ineffective CPD. Most headteachers complained that there were not sufficient funds to fully support CPD, such as to pay for registration fees, supply teachers, or buying in computers.

“How can I support teachers to attend CPD when I do not have the money to pay for the materials?” (H12, Public Elementary School).

g) *Short duration of time*: While headteachers reported that the most common types of CPD undertaken by teachers were short courses, workshops, and conferences, most headteachers criticized these types of CPD as being ineffective in enhancing teachers' knowledge and changing in classroom practice. Most headteachers thought that formal CPD activities such as lectures, short courses, and conferences had little effect on teachers unless they include active participation and relate the content to the participant's professional practice.

“Conferences and short courses are ineffective compared to courses that allow teachers for reflective thinking” (H2, Public High School).

Headteachers also indicated that one time CPD activities without ongoing teacher support are ineffective. They suggested that CPD should be an ongoing process and in a longer duration of time.

“Many ineffective CPD activities are for short periods of time and do not relate to the needs of the teachers” (H1, Private High School).

h) *Poor quality of delivery and lack of learning practice*: A lack of practice learning experiences, poor quality of delivery, and irrelevant content of CPD were additional factors contributing to ineffective CPD as reported by headteachers. Headteachers also commented that some activities relied too much on group discussions, the timing was too short and inappropriate or not relevant to the needs of the teachers. This resulted in teachers not able to gain in depth knowledge and skills required to do their jobs well.

“Sometimes CPD is ineffective. And I think this is due to the poor quality of delivery and the structure of the CPD. Some of the contents were inappropriate, and were not relevance to teachers’ needs” (H14, Private Vocational School).

Funds and time for CPD

Most of the headteachers from both public and private schools complained that there were insufficient funds to support CPD. Although public schools receive funds from the government, they were dependent on the size of the schools, numbers of teachers, and numbers of students. Therefore, larger public schools would receive larger funds. The funds for private schools were also dependent on the administration of the management, as well as the popularity of the schools. The more popular the schools, the more likely it would have more students and income. Hence, there would be more funds dedicated for CPD in some schools.

“My school is very small, we only have few teachers and the students are from poor families. There is not enough money for me to spend on teachers attending CPD” (H3, Public Middle School).

“My teachers attend CPD at regular intervals. When I received the funds from the government, I allocate certain amount to support CPD. I have also just bought computers for the schools. And I will try to do the same next year” (H5, Public Middle School).

“I believe the teachers should attend CPD. However, in my school it is very difficult to fully support CPD. It is all dependent on the management to allocate funds for CPD. They are not able to do this on a regular basis due to the fact that there are other areas of the school that need to be updated, such as computers, equipments, and new furniture” (H15, Private Middle School).

Headteachers agreed that there should continue to be a time allowance for teachers to spend on CPD. For example, one head from a public school stated that *“teachers need to involve in CPD activities in a continuing process”* (H5, Public Middle School). Headteachers provided dedicated time for staff members to participate in CPD activities. The majority of headteachers reported that they provided opportunities for teachers to undertake CPD over a range of period of time. The time that headteachers had dedicated for CPD can be categorized into three groups, including the normal working time, the particular time of the year when teachers were not directly teaching, and the time out of the schools only.

Most headteachers indicated that CPD activities for teachers, such as conferences, short courses, and seminars organized by the ESA, usually occur during the normal working time. These headteachers reported having substitute teachers to cover the class whilst assigning teachers to undertake CPD.

“Most of my teachers attend CPD during normal working time, so I usually provide a supply teacher to cover their teaching assignments” (H4, Public High School).

Only two headteachers, one from public middle school and another from a private high school, confirmed that they dedicated a particular time during the teachers' non class contract time for CPD. These headteachers reported having a scheduled block of time for teachers to participate in CPD for a period of 2-3 hours per week.

“I have allocated specific times for teachers to attend CPD. This could be for group discussions or planning classroom activities” (H8, Private High school).

“Teachers need adequate time to participate in CPD activities. I also prefer teachers to undertake CPD activities during the non class contract time so that there is no need for teachers to be away from the classroom” (H1, Private High School).

Four headteachers indicated that they have allocated CPD activities during the school holidays or over the weekends. These activities are easier to manage because they do not involve the need to arrange for the release of teachers from their teaching commitments. This is due to schools not having funds available for substitute teachers.

“My teachers have to attend CPD over the school holidays or over the weekends as I am not able to provide them substitute teachers” (H10, Public Middle School).

“Our school is very small, and we have limited funds. Our teachers have to attend CPD during the evenings or weekends” (H12, Public Elementary School).

The evaluation of CPD

The most common method used to evaluate CPD activities reported by headteachers during the interviews was by questionnaire. This method was usually undertaken immediately at the end of CPD activities in order to gather feedback from participants, regarding the content and quality of the activities. Seven headteachers reported that they evaluate the impact of CPD by participant satisfaction surveys. Staff members attending an activity would fill out a questionnaire to provide feedback and comments, and some would report their experiences in a written form.

Other methods of evaluation include discussion at staff meetings, writing a report, and observing the classrooms. For example, in some cases, teachers were asked to share their learning experiences with their colleagues at the staff meetings. Some headteachers required teachers to write a report on their CPD experiences. Three headteachers also indicated that they use classroom observation to evaluate CPD.

“I visit classrooms to observe teachers who have recently been through training to see if new ideas are in use in the classroom” (H5, Public Middle School).

Although some researchers have suggested the use of student achievement data as a means for evaluation, none of the headteachers from the interviews indicated that they use student data to evaluate such outcomes. Two headteachers also

indicated that they did not evaluate the CPD experiences for teachers, and did not feel confident in doing so. The reasons given for not evaluating CPD included a lack of time, a lack of staff members to produce/collect/evaluate the evaluation forms, a lack of awareness of the requirement to evaluate CPD, and the low value placed on evaluation. They also suggested that it would be helpful if the advice were made available on how to evaluate CPD.

“I would like to see examples as how CPD would be evaluated and what are the criteria for evaluation” (H11, Private Middle School).

Three headteachers, however, commented on the potential benefits of evaluating CPD and sharing CPD experiences among teachers. They suggested that evaluation is a key to make judgments about whether such activities are cost effective or time effective for changing teachers’ practices.

“CPD should be evaluated in order to improve the quality of the programs” (H7, Public High School).

“An evaluation of CPD is necessary to ensure the satisfaction of the participants, give them opportunities to share ideas and thoughts in order to develop future provision” (H4, Public High School).

Headteachers also felt that talking about CPD experiences with staff members can encourage positive developments in the schools. Although it was difficult for headteachers to make a link between CPD and the impact of teaching and learning, there was a belief by most headteachers that CPD could benefit the schools, teachers,

and students. Headteachers believed that CPD had led teachers to become more effective members of the school communities. Two headteachers indicated that CPD had affected teachers' contribution to colleagues and the school. Teachers were less anxious about being observed by their colleagues and were likely to share ideas and welcome others into their classrooms.

Teachers were likely to increase their confidence to take part in professional discussion, collaborate with colleagues, and share ideas” (H13, Private High School).

Many headteachers identified ways in which they thought CPD had an impact on teachers and their teaching practices. With respect to the types and contents of CPD, headteachers indicated that teachers who participated in the effective types of CPD such as collaborative working or observing colleagues were more likely to enhance their knowledge and skills and change their teaching practice compared with the formal form of CPD activities such as conferences and seminars.

“Effective CPD is likely to encourage discussion and communication among teachers. These elements may be important support for change in teaching practices” (H2, Public High School).

Five headteachers assumed that teachers could acquire new skills and knowledge about the content and pedagogy through participating in CPD activities. *“Most CPD activities are likely to focus on subject matter content, so they have a strong effect on teachers' change in knowledge and skills” (H15, Private Middle School).* Other headteachers felt that CPD had led to changes in teaching style.

Teachers who enhanced their knowledge and skills were also likely to change their teaching practices. As one primary headteacher reported on the evidence gained from observing classroom teaching, “*students were grouped and were working in a more collaborative way*” (H9, Public Vocational School).

Headteachers were cautious about making strong claims for the impact of CPD on student learning because they felt that there were other factors contributing to students’ success. Only one headteacher felt confident that the impact of CPD could be seen in student achievement. “*I felt that students had improved because they demonstrated greater knowledge and understanding of the subject content*” (H1, Private High School). Other headteachers believed that there had been a positive impact of CPD on student learning. These headteachers assumed that any effect on the teachers would have an impact on the students’ success as a result. “*As teachers had increased confidence in their subject knowledge and teaching techniques, there were likely to deal with students effectively*” (H7, Public High School).

Two headteachers stressed that not all professional development had an impact and that the impact varied according to the quality of the CPD experience. These headteachers viewed professional development as “*an opportunities for teachers to learn new knowledge and skills, which can or cannot result in teachers’ changing practice*” (H12, Public Elementary School).

Summary of the analysis of headteachers

Most headteachers have strong views about what CPD should involve and why it is necessary. They viewed their CPD positively and valued the impact of CPD on their students’ learning and teaching. Headteachers were aware of their roles and responsibilities in establishing a community of learning, and motivating teachers in

accessing CPD. They dedicated as much time and resources for CPD as possible in order to improve teaching skills and learning experiences of the students, although few allowed time to be taken from the core time in school.

Most headteachers had a traditional view of what constitutes CPD, the conversations with headteachers about CPD they had offered continued to be centered on traditional courses. However, some headteachers increasingly considered the range of CPD activities beyond attendance at courses in order to provide high quality programs for staff members. These activities include study groups, observations, collaborative works, and action research. Moreover, most headteachers thought that teachers need to be master in their subject knowledge and teaching technique skills. Therefore, the most common themes of CPD headteachers provided to teachers were focused on these specific content areas.

The CPD activities normally took place during the school hours. Additionally, some activities were held on the weekend, in the holidays, or during evening. Headteachers evaluated the impact of CPD by participant satisfaction surveys after teachers had participated in CPD experiences. Some headteachers also required teachers to write a short report on CPD and a reflection of the impact of the CPD.

There were slight differences between male and female headteachers regarding their roles and responsibilities of CPD. Male headteachers were more positive in motivating their teachers, compared to female headteachers. However, female headteachers had the abilities to organize teachers in group participation with more accuracy. For the schools to send their teachers to CPD this all depends on the budgets and their CPD policies. In any cases, from the discussions with the headteachers, most of the schools in Thailand do not have large funds to support CPD regardless of the types of the schools. The management of the private schools will

allocate some of the funds for CPD and the government will provide the funds for CPD to the public schools. However, there were limited funding, as well as lack of substitute teachers among those from small public schools compare to large public and private schools. To enable the success of CPD, both headteachers from public and private schools reported that they required additional funds to support CPD.

Although it was difficult to make a link between the CPD and the impact on teaching and learning, many headteachers believe that CPD would benefit the teachers, schools, and the students. As reported by headteachers, CPD enhances teachers' knowledge and skills and results in changing teaching' practice. Teachers were less anxious to share ideas among peers and were confidence in teaching their subject areas, leading to professional learning communities and improving in student achievement.

7.3) Interviewing Teachers

The interviews of teachers who had attended CPD courses were conducted individually to explore the types and characteristics of effective CPD that they had been experienced. These interviews were conducted using two teachers from the same school. This means that 30 teachers from 15 schools were requested to attend the interviews. The interviews of teachers took place after the headteachers interviews, involving seven males (23%) and twenty three females (77%) teachers (see Table 7.5).

Table 7.5: Teachers involved in the interviews arranged by date of interviews

Teachers	Sex	Types of Schools	Levels of Schools	Subject taught
T1	Female	Private	High	Math
T2	Male	Private	High	Physics
T3	Female	Public	High	English
T4	Female	Public	High	Math
T5	Female	Public	Middle	Thai
T6	Female	Public	Middle	English
T7	Female	Public	High	Biology
T8	Female	Public	High	English
T9	Female	Public	Middle	Math
T10	Female	Public	Middle	History
T11	Female	Private	Elementary	Math
T12	Female	Private	Elementary	Social study
T13	Female	Public	High	Chemistry
T14	Female	Public	High	Math
T15	Male	Private	High	Math
T16	Female	Private	High	Biology
T17	Male	Public	Vocational	Mechanical
T18	Female	Public	Vocational	Computer
T19	Female	Public	Middle	English
T20	Male	Public	Middle	Science
T21	Female	Private	Middle	Math
T22	Female	Private	Middle	Science
T23	Female	Public	Elementary	Thai
T24	Female	Public	Elementary	Math
T25	Female	Private	High	Computer
T26	Female	Private	High	Physics
T27	Male	Private	Vocational	Electronics
T28	Male	Private	Vocational	Construction
T29	Male	Private	Middle	English
T30	Female	Private	Middle	Math

The interviews of teachers were selected to provide a purposive sample that represented different types, levels, and sizes of the schools. These schools were either private or public and were from different district areas of urban, suburban, and rural schools in Chiang Mai. A variety of teaching subject areas of teachers was also chosen to represent different types of CPD. The interview contained questions which aimed to capture teachers' views and experiences of CPD in their schools. All the interviews took place in a private room provided by the schools and lasted approximately 30-45 minutes.

Views of the benefits of CPD

The majority of teachers was highly positive about their views concerning CPD and saw it as an important part of their ongoing development. The biggest motivation for teachers to undertake CPD was to keep themselves up to date. Two teachers reported that they enjoyed the opportunities of CPD and felt that they experienced significant improvement as a result of CPD participation.

“CPD is great. It makes me feel like a fresh start with something new to learn because things are changing all the time” (T25, Private High School).

“I have engaged in CPD throughout my career. CPD has improved my career progression, increased my confidence, and enhanced my knowledge and skills” (T9, Public Middle School).

Teachers gave a number of reasons why they need to undertake CPD. These are keeping themselves up to date, maintaining the standards of the profession,

meeting the learning needs of pupils, increasing their salary, improving teaching practice, and improving student outcomes. Additionally, the enjoyment of learning was also identified by teachers as the reasons for them to take part in CPD activities. Three teachers reported that they undertake CPD because they enjoy the opportunities to network and socialize with peers.

“I think CPD is important. It improves my teaching practice, as well as the teaching and learning experiences for the students.” (T13, Public High School).

“I undertake CPD because I want to enhance my skills and abilities and fulfill my professional responsibilities, as well as giving me the opportunities to socialized with my peers and meeting new people at CPD” (T2, Private High School).

Types and content of CPD

Teachers mentioned a range of CPD activities provided by their schools, Education Service Area (ESA), and other providers, such as Colleges, Universities, and private agencies. They indicated that conferences, seminars, and workshops were the most frequently CPD activities that the ESA provided for them.

Teachers reported that they had participated in various types of CPD activities. In most cases, teachers were assigned by the schools to participate in CPD, while in some cases their participation was voluntary. Teachers were most likely to participate in short courses, collaborative work, self study, conferences, and workshops

respectively. Many of them had engaged regularly in scheduled collaboration with other teachers on instructional issues.

Teachers from different schools had different CPD experiences (see Table 7.6). The range of experiences was very wide and could be recognized as anything that the schools and ESA provided to teachers to enhance their knowledge and skills. Teachers reported both formal and informal CPD activities that they had experienced. Therefore, it is impossible for staff members to undertake every opportunity they identified as useful because most schools and ESA decided the development needs for their staff members.

Table 7.6: Types of CPD available to teachers both within and outside of the schools

Within schools	Outside schools
Discussion groups, group activities (20)	Short courses, conferences, workshops, seminars (22)
Short courses, conferences, workshops, seminars (18)	Self-directed study (21)
Meetings (14)	Visiting other schools (3)
Sharing good practices (11)	Studying for higher degrees (2)
Action research (8)	
Coaching, mentoring, and classroom/peer observation (7)	

Note: Interviewees could suggest more than one type of activity

Table 7.6 indicates the range of different types of CPD available to teachers both inside and outside school. For example:

“CPD is anything within and outside of the school” (T1, Private High School).

“Staff meetings, going on courses, sharing ideas, discussion with peers were examples of the CPD experiences in my school” (T21, Private Middle School).

Patterns indicated that teachers from large public schools and private schools attended CPD courses more than teachers from small rural areas. This is due to the support from government funding. However, teachers from some private schools also reported that their schools do not support CPD fully and used the funds for other activities.

“I have attended three CPD courses last year. These CPD courses were run by my school and Education Service Area” (T4, Public High School).

‘I would like to attend variety of CPD courses, but sometimes my school is only interested in certain subjects and therefore training are given to those teachers’ (T28, Private Vocational School).

Table 7.7: The contents of CPD available to teachers as indicated by teachers

Content Areas	Number of Responses
Subject areas of teaching	26
Curriculum planning	21
Teaching techniques	17
Classroom management	12
Use of ICT	9
Other: Student assessment, communication skills, etc.	5

Note: Interviewees could suggest more than one type of activity

As Table 7.7 shows, according to these teachers CPD covers a wide variety of areas, from subject matter knowledge to personal development issues. Most teachers indicated that the content of CPD they had undertaken was relevant to their teaching. They discussed engagement of CPD in a wide range of content areas. The majority of teachers participated in CPD activities that cover the content in their main teaching field. These teachers also reported participating in the content of curriculum development, instruction of teaching techniques, computer for classroom teaching, student assessment, and classroom management respectively.

“The content of CPD activities generally focuses on deepening my knowledge of mathematics and pedagogy” (T14, Public High School).

Three teachers, however, have commented that the content of CPD should not be specific only to their core subject areas. These teachers required the opportunities to undertake CPD to gain expertise in other content areas, such as English, computer, and communication skills. As can be seen in the Table 7.7 above, these contents of CPD were rarely available to teachers. Only few teachers had undertaken CPD in other areas.

“It would be more interesting for me to attend English courses to further develop my English language skills” (T7, Public High School).

“I think that the information technology is becoming more commonly used nowadays. Teachers need to attend CPD in these areas to gain knowledge and skills to enable them to adapt the use of IT in their classrooms” (T15, Private High School).

Characteristics of effective and ineffective CPD

Table 7.8 shows the characteristics of effective and ineffective CPD reported by teachers. Teachers reported very different perceptions of the quality and value of the types of CPD they thought were effective. They were describing their positive learning experiences and what constituted high quality CPD. Most of them placed important value on the importance of the topic and content of CPD.

Table 7.8: The characteristics of effective and ineffective CPD as reported by teachers

Effective	Ineffective
a) Quality content	h) Poor materials and delivery
b) CPD duration and relevance	i) Short duration
c) Ongoing process	j) Overload or too many tasks
d) Active learning	
e) Opportunities for discussion	
f) Expert presentation	
g) Support, funds, and resources	

a) *Quality content:* Teachers mentioned that good CPD is when the content is interesting, relevance to their needs, and focused on their subject matters. This will allow them to increase their knowledge and become expert on their subjects. Additionally, effective CPD should include activities that allow teachers to reflect on their ways of thinking as in turn this will strengthen their teaching skills.

“I would like to participate in activities that have a targeted focus and relate to my need” (T3, Public High School).

“CPD should include activities that encourage me to think and strengthen the teaching skills.” (T23, Public Elementary School).

“ I believe that CPD activities are useful when the activity enables me to acquire new knowledge about the content and pedagogy, and reflect on my teaching practice” (T11, Private Elementary School).

Three teachers mentioned that they have taken university courses for certification and that they have to keep their knowledge and skills up to date by attending courses. These teachers also suggested that the content of CPD should include new ways of teaching techniques, use a team approach, provide time for reflection, have humour and fun, and to keep them up to date.

“It is more interesting if the subject matter is new materials and that they shouldn't use the techniques that I've already known” (T13, Public High School).

b) *CPD duration and relevance:* Most teachers suggested that effective CPD should be relevant to their classroom teaching practices and should dedicate a longer period of time to experience this fully. Teachers felt that they have not learnt anything from CPD if the seminars are too short. They were unable to pick up the learning and ideas as the courses are too compact.

“Best CPD were anything that had relevance, long term approach, and direct to classroom teaching” (T8, Public High School).

“I’d prefer a longer duration of CPD or any activities that provide opportunities for me to participate and share my ideas and thoughts” (T16, Private High School).

In contrast to most teachers, some teachers reported that short courses or workshops were helpful professional development opportunity in which they had participated. One teacher said the computer workshop was her most meaningful CPD experience. She felt that she learned the information in this course and was able to collaborate with other teachers and see how other people use technology in the classroom. She also suggested that short courses or workshops would even be effective if they allowed teachers to undertake for the follow up or practice.

“Teachers who attend the workshop should try it out in the classroom, and then return for another session in order to discuss their experiences and ask questions” (T18, Public Vocational School).

c) *Ongoing process:* One of the comments made by the teachers was that CPD should be an ongoing process. This will give teachers the opportunities to pick up new skills and increases their experiences. Teachers reported that they enjoy working with other members and that they learn more from their colleagues. For example, one teacher commented:

“Good quality CPD should be ongoing, provide opportunities for individual reflection and group discussion” (T15, Private High School).

d) *Active learning*: A good CPD mentioned by some of the teachers was to be actively involved in the learning process. Some teachers commented that they were bored whilst on CPD courses due to practice not being given. There were no group discussions, and there were no group participations.

“Best CPD experiences are when I am involved with the training. It encourages me to think more and gave me the opportunities to discuss with other participants” (T21, Private Middle School).

e) *Opportunities for discussion*: The characteristics of effective CPD that teachers reported as meaningful experiences were the opportunities to collaborate working practices. Collaborative working includes many activities such as working in a team on the school project, or learning from other people such as peer coaching, mentoring, and job shadowing. The notion of collaborative working and sharing ideas among colleagues was mentioned by many teachers.

“The most types of CPD activities that I enjoy were the participation in collaborative working. I’ve learned by watching my colleagues, observing other teachers, and sharing ideas among peers” (T29, Private Middle School).

Teachers reported that they enjoy the opportunities that offered them to discuss and share ideas together. The sharing of experiences provides opportunities for teachers to build closer bonds with their peers.

“I enjoyed and want more opportunities for sharing ideas among peers in the schools” (T24, Public Elementary School).

f) *Expert presentation*: Some teachers reported that effective CPD is when the presentation is provided by an expert who also has good humour. This will make CPD experiences more fun and interesting. Experienced CPD presenters were those that encourage teachers to take back what they have learnt to their workplace.

“Quality CPD occurs when it is delivery by an expert who provide notes and information and allows teachers to take ideas back to the classroom” (T30, Private Middle School).

“Any activities that are well-presented and relevance to the classroom teaching practice” (T17, Public Vocational School).

g) *Support, funds, and resources*: Teachers suggested that the quality of effective CPD activities depends on the quality of the headteacher and the financial resources available. They reported that although schools in Thailand do not have sufficient funding, it is the headteachers’ responsibilities to allocate funds to support CPD. Additionally, headteachers should know the strengths and areas of

improvement of their staff members, and provide learning opportunities that is suitable for their needs.

“My headteacher always ensure that there is sufficient funds to support CPD which make it easier for us to participate in CPD effectively” (T26, Private High School).

h) *Poor materials and delivery*: Whilst teachers reported activities they thought as effective CPD, they also criticized the poor quality of CPD experiences. Teachers demand high standards of CPD content, duration, and delivery. Any content of CPD that fail to focus on the needs of teachers, not relevance to classroom practice, and poor presentation skills were ineffective.

In some schools, a number of teachers reported that some activities did not respond to their needs. These teachers commented that CPD should be specific to the focus group and the content that could not be related to classroom practice was a waste of time.

“The most ineffective CPD are activities that are decided by others without any considerations and not serving my needs” (T19, Public Middle School).

Two teachers described that they left one course just after lunch and gone back to their schools. They felt that the course was of a low standard and was not relate to their classroom practice. The teachers felt that it was a waste of time so they left the session.

“The session was terrible and I’d rather go back to school to plan my lessons or do something related.” (T6, Public Middle School).

Additionally, one middle school teacher described how she felt when she took a day away from the classroom to attend a course. Due to the poor quality of the presenter, this teacher felt that she did not benefit from that course.

“Presenter had poor presentation skills. He was also not familiar with current classroom practices or curriculum content. I would like to attend the courses which are enjoyable. I think quality CPD depends on the quality of the delivery” (T22, Private Middle School).

i) *Short duration of time:* Teachers commented that the duration of the CPD should not be too short. Short sessions were considered to be ineffective since teachers were not able to acquire sufficient knowledge and skills. One teacher gave an example of a provider who cut the session short. *“The training began at 1:00 pm and ended at 4:00 pm. I felt that I didn’t gain anything since there was not enough time to practice”* (T14, Public High School).

Four teachers also described their attitude towards attending short courses. They reported that short courses were ineffective comparing to longer courses. They were not able to remember what they have learnt. This is because there was not enough time to discuss or practice.

“CPD is not just taking course. The most effective CPD were those activities undertaken with colleagues in the supportive learning environment” (T9, Public Middle School).

j) *Overload or too many administrative tasks.* Many teachers expressed their concerns over the amount of their workloads. They felt that attending too many CPD resulted in them not being able to do other tasks, for examples, plan lessons, check and score students’ works, and review the students’ progress. This in turn makes CPD ineffective since the students were not able to receive the attention they deserve.

“I have too much work on already. Whenever I have a spare time, I use this to review my students’ progress. I will not be able to do this if I have to attend CPD” (T12, Private Elementary School).

Sharing learning experiences

Almost all teachers reported that they share their learning from a CPD experience with their peers. They indicated a variety of ways in which the schools provide opportunities for staff members to work together and share experiences. For example, in one school a group of teachers organized by grade levels to work together on curriculum development, to understand the expectation from their students, and to brainstorm and plan what they can do to help students meet their needs.

“I like group discussion. I think that effective discussion created a supportive environment” (T27, Private Vocational School).

“Peer observation, group meetings, and discussions are effective because they allow me to exchange ideas with similar concerns and interests with my peers”
(T5, Public Middle School).

Some teachers also reported that their schools were likely to promote a learning community for all staff members. Sharing learning experiences for teachers normally occurred at the staff meetings and in a discussion with colleagues. Teachers commented on the benefits of sharing information. Most of them viewed sharing as an effective way to inform their peers of good practices, and provide opportunities for colleagues to discuss and share ideas together.

“By sharing CPD experiences, I can think about the learning experiences and use it more in practice” (T10, Public Middle School).

Networking is an important part of CPD activities. Teachers felt that talking with colleagues about CPD learning could enable them to reflect on CPD activities, and encourage positive developments in departments and in the schools. The discussions among peers could help teachers identify their own CPD needs.

“Discussion with colleagues generates new learning and enhances the whole school improvement and new initiatives” (T23, Public Elementary School).

“When I speak to my peers, I was able to identify my strengths and weaknesses” (T17, Public Vocational School).

Many teachers expressed great enthusiasm for peers' observation, especially those teaching the same or similar subject areas. One teacher reported that her school encouraged peer to peer relationships within teaching over a long period of time.

“I felt that peer observation was the most effective CPD opportunity I’ve ever participated. This method would allow teachers within the same departments or subject areas to observe each other, give feedbacks, and share ideas and thoughts in order to develop teaching practices” (T12, Private Elementary School).

Time and Funds for CPD

Time and fund were commonly reported by teachers as the obstacles to CPD. Many teachers mentioned lack of funds. They also said that their timetable is usually full. Therefore, in order to take time off to attend CPD, a supply teacher will have to be employed, which often means more funds are required.

“Funds for CPD were limited so it is difficult for all teachers to attend regularly” (T19, Public Middle School).

Some teachers were also aware that some of the particular subject areas appeared to have more funding than others. Thai and social studies teachers reported that courses were not often offered compared to those for Mathematics and Science teachers. One also reported that *“the department has only few staff members to cover each other. This situation is a barrier to participate CPD” (T5, Public Middle School).*

Teachers reported that the time of the CPD is usually held at term times. Some teachers commented that they would prefer CPD to take place out of school hours or during the school holidays. Especially, sometimes the venues are too far away from the schools. Some of the venues are held in Bangkok, which meant that the teachers have to travel, as well as attend CPD. This in turns increase to the cost.

“The trainings were offered during busy schedules and sometimes at a long distance from schools” (T30, Private Middle School).

Different schools vary in the amount of time and the types of CPD offered to the teachers. Teachers reported that they need adequate time to participate in CPD both inside and outside of the schools. Most teachers preferred to take one day off of school to attend the CPD courses. They reported that they were also willing to use after school time for CPD. However, the ESA provided the courses during the work time period. Most teachers who need to attend to the CPD courses provided by ESA need to find substitutes to take care of the students while they were away from the classroom. These teachers expressed concerns about the time for CPD, they did not want to participate in CPD sessions that required them to be out of the classroom.

“I did not like it when CPD occurs during the school day. I would prefer to attend CPD during the time when students were away from the classroom” (T20, Public Middle School).

“The only reason that I didn’t want to participate in CPD was because I would have to leave the classroom for a full day” (T24, Public Elementary School).

Teachers commented that whilst they away on the courses, they are unsure if the supply teachers are teaching the students. Quite often the supply teachers do not know what have been taught and therefore just sit in the classroom, checking the students’ attendance and asking them to do the home work.

“I hate to be away from the classroom. I am never sure if the substitute teacher had done what I would want them to do” (T1, Private High School).

“I feel guilty when I need to attend CPD activities and have to leave students with the substitutes. I think that students might fall behind due to my absence” (T18, Public Vocational School).

Teachers usually prefer to engage in CPD activities after the school hours or during holidays rather than during their working hours. They reported that they were happy to give up a day or two of their holidays to attend courses or training sessions. Some teachers prefer to participate in CPD at the beginning or/and at the end of the school terms. This will allow them to dedicate their time to CPD.

“I would prefer to give my time to take the sessions after school, during afternoon, in the evening, or holidays, even though these seem to be too much work after a full working day” (T16, Private High School).

“Even though my workload has now increased at the beginning and at the end of school terms, it is better than offering CPD during the mid terms or during my teaching hours” (T7, Public High School).

Whilst in some cases, the teachers stressed the need for providers to offer a variety of CPD activities throughout the year. These teachers demanded more time for CPD and CPD practices. They would like to be involved in CPD activities as much as possible. They were also concerned about the follow up after CPD activities. These teachers indicated that they have no time to process what they had learned from CPD.

“I have got a lot of good ideas, but I have no time to do anything with that information” (T11, Private Elementary School).

“I haven’t had time to implement things and have also forgotten the information that I have learned” (T22, Private Middle School).

While some teachers demanded more time on CPD, others thought that they had too many responsibilities already. Teachers complained that they need the holidays to recover from busy working hours. They said that they already have a busy schedule and that they were unable to dedicate extra time to CPD. CPD was thought as additional work, particularly when teachers need to pursue CPD in their own time. One teacher reported that involving teachers in too many hours of CPD activities was not appropriate, since teachers were also required to do other administrative tasks.

“I like CPD but I think It’s a lot of work” (T6, Public Middle School).

Benefits of CPD

Most of the teachers felt that CPD was important and relevant to their teaching. There was strong agreement that CPD could update subject knowledge and teaching skills, make teachers more confident, increase good relationship among peers, and benefit the whole school.

Teachers reported that participating in CPD impacted on their attitudes and beliefs. They mentioned that their ideas about themselves, about school, teaching, and students were changing to be positive. They also positioned themselves as being interested in continue improvement and learning as a result of participating in CPD.

“Almost every staff member in the school was willing to participate in CPD. They were trying to put as much effort as possible to develop themselves to teach students effectively” (T2, Private High School).

Teachers reported that the CPD offered by their schools was useful and influenced their classroom instruction. All teachers said that they had participated in CPD activities and they enjoyed the experiences. When asked how CPD has influenced their instruction, many teachers expressed that they utilize the teaching strategies introduced in CPD. By participating in CPD, teachers believed that they gained new skills and knowledge, they developed new curriculum, created new activities and new roles for students and teachers, and allowed them to change or evaluate their own teaching practices.

“It gave me a better understanding of the learning styles in my classroom. It made me more aware of the needs of the students” (T26, Private High School).

“The group work at the seminar put me in the position of the students. I could see how useful it is to work with other people. This helps me to better understand how to engage students in their learning” (T21 Private Middle School).

Teachers felt more confident about teaching the subjects that they had been assigned to. A number of teachers reported how CPD enables them to view themselves as well prepared teachers. One science teacher expressed that in the past she had felt uncomfortable to teach students science. She felt that she taught students from what she read in the textbook and she could not go beyond the content of the textbook.

“Participation in CPD appears to have had an impact on the subject preparation. I was at least well prepared to teach science as a result of participating in CPD activities” (T22, Private Middle School).

Similarly, another mathematic teacher reported that she used to get frustrated with her limited knowledge. However, she had learnt a lot about the content and teaching content from the previous experience with CPD, and this allowed her to be ready to teach students in the classroom.

“The course I attended increased my understanding of the content. It made me grow as a teacher” (T1, Private High School).

Some teachers also described how they appreciated having the CPD opportunity to reflect on their own teaching practice. They also felt that they were motivated to consider changing their teaching practices to better meet their students' needs.

“I’ve involved students more in cooperative grouping, and I’ve tried to use a variety of instruction techniques to suit with different learning styles of students” (T28, Private Vocational School).

Even though most teachers found CPD programs valuable, some of them would not be able to implement what they have learnt from CPD into the classroom. Teachers expressed concern about the need to use the instructional techniques that were in the best interest of their students. Some teaching strategies or materials were inappropriate for the students. Some students might like to be involved in groups, while others might prefer to work on their own tasks.

“New teaching techniques were not always suitable with all students, I would like to apply what I’ve learnt then see what works best for individual students” (T4, Public High School).

Suggested areas for improvement

Although teachers reported a high level of satisfaction with the CPD they received, a few areas for improvement were identified. These areas for improvement were consistency with the analysis of qualitative responses to the open-ended

questions described in Chapter 6, and the characteristics of effective and ineffective CPD described in this chapter.

- The majority of teachers suggested that CPD should be an opportunities for all teachers. Currently, only a small number of teachers were able to attend CPD on a regular basis.
- Teachers suggested that they need more time for training, more opportunities to plan with other teachers, and more focus of the topic or content of CPD that is related to their needs.
- Teachers commented that the headteachers should put in place a follow up session and evaluation to ensure that teachers apply the skills and knowledge gained through CPD.
- Teachers commented that time and money was important factors for the improvement of their continuing professional development.

Summary of the analysis of teachers

There were thirty teachers interviewed with respect to CPD. Most teachers' views of the CPD were positive and saw this to be an important part of their ongoing development. Teachers experienced a wide variety of CPD activities provided mainly by the ESA and schools. These teachers reported that the most common CPD activities they experienced were of the traditional approaches of CPD, including conferences, seminars, and workshops.

Although there were wide varieties of CPD, most teachers prefer some reformed approaches of CPD, such as group discussion and active learning approach, and thought that these reformed types of CPD were more effective than the traditional approaches. In addition, the teachers were also concerned of the lack of time and funding of CPD and found this to be a barrier.

From the analysis of the qualitative information, most teachers enjoyed the experiences from CPD learning and saw the benefits of CPD. They believe that CPD played an important part for individual growth, school improvement, and student outcomes.

7.4) Conclusion

This chapter has analyzed the results of a number of different sets of data that offered a description of issues regarding CPD that teachers experienced in Thailand. CPD for headteachers and teachers are seen to be important. However, as shown in this chapter, there are several issues which prevent teachers from experiencing effective CPD. Major issues commented on by headteachers and teachers were due to the time and funding, as well as the content of CPD. The next chapter therefore provides a discussion and recommendations of the results from this study.

Chapter 8

Discussion and Recommendation

8.1) Introduction

This chapter contains an interpretation of the results shown in Chapter 6 and 7. It discusses the key themes that have emerged from the study. The first part of this Chapter is a review of findings in terms of six research questions. The second part of this Chapter is a critical discussion of the study. The chapter ends with recommendations for designing and implementing effective CPD. It is hoped that the recommendations made here might be useful to the administrators, teachers, educators, schools, and educational authorities to recognize the good models of CPD, and dedicate time and resources for CPD to raise the standards of teaching and learning in the schools.

8.2) Discussion of findings

The purpose of this study was to investigate effective CPD experiences for teachers in Thailand to improve classroom teaching and student learning. The study examined current CPD experiences of teachers in Thailand and highlighted the role of headteachers where appropriate. The following discussion brings together the answers from the teacher survey and interviews with teachers and headteachers to the research questions. The research questions were:

1. What is the role of the headteachers in promoting and supporting CPD?
2. What are the various types and content of CPD activities and programs that teachers experience in Thailand?
3. What are the characteristics of effective CPD?
4. Is CPD making a difference to the quality of teaching in schools?
5. Are there any relationships between CPD and student achievement and behaviour?
6. Are there any gender differences in the teachers' views and preferences for CPD?

RQ1: *What is the role of the headteachers in promoting and supporting CPD?*

The role of headteachers in supporting CPD for staff members is complex and challenging. Headteachers require appropriate levels of knowledge to lead and manage the schools in order to improve the standards of teaching and learning (DfES, 2004). There are many tasks and responsibilities in which effective headteachers need to do for improving of the schools. Effective headteachers are crucial and are responsible for the following duties in promoting and supporting CPD.

- *Designing and Implementing CPD*: Careful design and implementation of a program of CPD are an essential part of the role of headteachers to meet the particular needs of individual teachers and their preferred learning styles. Interviewed headteachers in this study claimed that they need to support a wide range of CPD experiences for staff members. They need to design and implement CPD activities that are suitable for individual teachers in terms of the content and method of delivery.

Most interviewed headteachers reported that a range of staff members are involved in designing, implementing, and identifying CPD needs. Some interviewed headteachers revealed that they have a member of staff designated to be responsible for CPD. This CPD team member is responsible for identifying the needs of the staff members, and managing the time and budget for addressing the needs. Headteachers, in turn, are likely to make the final decision on opportunities for CPD.

The results in this study confirm the finding from studies in England that CPD responsibilities are sometimes shared across a range of staff. Goodall *et al* (2005) and Robinson, Walker, Kinder & Haines (2008) reported that a range of staff are involved in supporting the CPD needs of all staff members. CPD responsibilities may have been interpreted differently by different schools. However, responsibility for CPD leadership is predominantly held by those with considerable professional experience (Robinson *et al*, 2008).

Headteachers and CPD leaders require knowledge of different forms of CPD and how they can be organized and evaluated. They expressed their needs for CPD training (Goodall *et al*, 2005; Robinson *et al*, 2008). Headteachers and CPD leaders claimed that they attend training sections or conferences on developments relevant to CPD less frequently than teachers (Robinson *et al*, 2008). Therefore, there may be benefits for a CPD training session for headteachers, as well as CPD leaders or any other staff who are responsible for designing and identifying CPD needs (Dudley, LA CPD Policy, 2008). Suggested ways and methods to identify CPD needs will be discussed in the recommendations section in this chapter.

- *Monitoring and Evaluating CPD*: The evaluation of CPD can be seen as a means to ensure the satisfaction of teachers and improve their future action. There are many techniques and methods to evaluate CPD, including questionnaires, interviews, and observations. Headteachers need to use appropriate methods in evaluating CPD to ensure that the training is cost-effective and meets its purpose and objectives, so enhancing professional development in the school.

Muijs & Lindsay (2008) argue that CPD evaluation is rarely undertaken in a systematic and focused manner. In most cases, they argue, evaluation takes the form of a feedback that is completed by teachers, asking questions about the content and delivery of CPD, and whether teachers felt that the course undertaken had met its objectives. There are rarely questions as to whether CPD activity was cost-effective and likely to improve the teaching and learning. They also argue that there is rarely follow-up or long-term monitoring of the impact of CPD. This situation is similar to Thailand, where interviewed headteachers in this study reported that the most common form of evaluation they normally used in evaluating CPD is a feedback questionnaire. This evaluation questionnaire is likely to ask participants to rate the program effectiveness in terms of an individual satisfaction. Whilst this can be valuable in gauging positive or negative attitudes towards CPD, there are many other ways and different levels of impact evaluation as outlined by Thomas Guskey (Guskey, 2000).

Many teachers who responded to the open-ended questionnaires in this study suggested that evaluating CPD would be useful in determining the effectiveness of the CPD experiences. Additionally, some of the interviewed

headteachers were concerned with the question of value for money. They wanted to make sure that the money is well-spent and that the activity is cost-effective. Although all of the interviewed headteachers and teachers believed that CPD benefits the teachers, schools, and students, they wanted to make sure if teachers can really change their teaching practice as a result of CPD.

The evaluation of the effectiveness of CPD requires the use of appropriate of methods. Goodall *et al* (2005) reported the usefulness of different evaluation methods of CPD according by teachers. They argue that most teachers had positive attitudes towards the evaluation of CPD. Most evaluation methods were seen as *somewhat useful* or *very useful* by most teachers. Teachers claimed that interviews were seen as most useful, followed by questionnaires and classroom observation. Pupil attitude measure and documentary evidence were least frequently mentioned as being very useful according to teachers.

Teachers were also considered the usefulness of evaluating different outcomes of CPD. According to Goodall *et al* (2005), evaluating improvement in participant knowledge and skills, participant satisfaction, and pupil outcomes were seen as most useful respectively. Evaluating value for money and organizational change were seen as least useful according to teachers. *“It is of importance that schools evaluate the effectiveness of CPD they have undertaken, in order to inform future policies and activities in this regard”* (Muijs & Lindsay, 2008, p. 206). Suggested ways and methods in evaluating CPD will be discussed on the recommendations section in this chapter.

- *Managing CPD time and budget:* Headteachers need the availability of funds and resources for teachers to undertake CPD activities. They need a realistic budget, as well as accommodation and facilities for CPD. Unfortunately, the lack of money and resources is a major issue identified from the interviews of both headteachers and teachers. The role of headteachers, then, is to make the best use of limited money and other resources available for CPD.

Results from the survey of teachers suggested that teachers undertake CPD at different times and both inside and outside of the school. CPD activities for teachers are commonly undertaken during the working hours, in the evening, over the weekend, and during holiday time. As a result, some teachers from the interviews expressed their views that they are too tired for a CPD session since they are overloaded with many duties.

The teachers' views concerning high workload should serve as a warning to headteachers and CPD team members in managing time for CPD programs. Headteachers need to decide how to use the time most effectively to best meet the needs of their staff members. Ideally, this should include protected time for CPD activities.

The Office of Her Majesty's Chief Inspector of Schools in England (Ofsted, 2002) evaluated the management and effect of teachers' CPD activities. Their report was based on 2000 and 2001 evidence focusing in detail on 112 schools in 10 local educational authorities (LEAs). Overall they concluded that many schools failed to allow enough time to support effective CPD and ensure that newly acquired knowledge and skills were consolidated, implemented, and shared among colleagues. Moreover, money to support

CPD was often spread thinly across a number of teachers, based on the principle that each teacher was entitled to a share of the available funding.

The main attention needs to be given to improve management in order to allocate time, money, and resources available for CPD effectively. Teachers in many schools in the HMCI report were hesitant about leaving their classes to undertake CPD activities. The majority of teachers tended to pursue CPD that took place after school in order to avoid missing lessons. However, this was undesirable since it detracted from the time available for marking and preparing lessons for the following day. Therefore, these teachers felt that there should be protected time for them to undertake CPD during the school day (Ofsted, 2002).

The Office of Her Majesty's Chief Inspector (2002) reported that teachers should have time allocated for CPD. There should be sufficient time for effective preparation, follow-up, and dissemination as part of the budget for CPD activities. This can be a range of protected non-contact time prior to a course or after the course ended, and/or allocated half-day or full-day release from lessons at a future date to implement their new ideas and to assess the quality of the outcomes.

- *Motivating and increasing collaboration of teachers:* Headteachers are an important factor in motivating teachers to improve and develop their practice. Goodall *et al* (2005) reported that headteachers saw their role as to motivate and lead staff members in relation to CPD. Headteachers tended to be enthusiastic about CPD, seeing it as a means of motivating staff members to increase and distribute professional practice within schools. Although

providing the budget and time for CPD was mentioned many times by headteachers as the means of supporting CPD, leading teachers and providing them encouragement were mentioned more often as the role of headteachers.

CPD providers, such as Teacher Training Agency (TTA) and National Union of Teachers (NUT), have shown a keen interest in the reviews from the Evidence for Policy and Practice Information (EPPI) (GTCE, 2009a). The EPPI reviews have looked at the impacts of collaborative CPD in primary and secondary schools on teachers and students across the 5-16 age range. Overall, the EPPI reported that the most effective CPD, which has positive effects for teachers and students, was found to be collaborative. The EPPI findings also offer implications for teacher practitioners, CPD co-ordinators, and providers of CPD that opportunities for sustained collaborative CPD are valuable and should be encouraged to all staff members (Cordingley, Bell, Evans & Firth, 2005).

It is a responsibility of the headteachers to encourage teachers to participate in CPD, and support them training according to their needs. Headteachers also need to enable all staff members to work collaboratively. They need to build the culture of the schools in sharing the experiences between staff to increase their knowledge and skills. A number of headteachers in this study indicated that they motivate and encourage teachers to develop their expertise. These headteachers also create a professional learning community within the schools to enable everyone to work collaboratively. As suggested by a majority of headteachers and teachers in this study, participating in groups and working with peers was a particular form of effective CPD. Teachers prefer participating in groups discussions

and working with peers, indicating that collaborative CPD can increase motivation.

RQ2: *What are the various types and content of CPD activities and programs that teachers experience in Thailand?*

Prior to the main study, a pilot was carried out to interview headteachers and teachers to gain perceptions of their understanding of CPD. It was clear from the pilot interviews that their views were that the only types of CPD were formal activities, such as workshops, conferences, seminars that were often held outside of the schools. Therefore, before the interviews of the main study were carried out, a brief explanation that CPD could be formal and informal was given. As a result of this, both headteachers and teachers from the interviews reported a wider range of CPD.

For the types of CPD in Thailand, it was found by both the survey and interviews that teachers experienced a wide variety range of CPD activities. These included short courses, workshops, conferences, college coursework, peer coaching, mentoring, study groups, work-shadowing, collaborative learning, networks, teleconference, action research, self-directed study, field trips, visiting other schools, and others. Although there were differences in the number of years taught among the teachers, there were no differences between levels of experience with respect to the types of CPD undertaken. Nevertheless, the type of CPD available to teachers varied between schools. This may be due to the fact that some schools are larger than others and have more funds and resources available.

In comparing this study to Goodall *et al* (2005) the results of both studies also show similar patterns that CPD for teachers comes in a wide variety of forms, from the formal activity such as short courses to the informal activity such as discussion

with colleagues. In the Goodall *et al* study, a range of CPD activities were available, however, they reported that the schools and individual teachers should be able to select the activity which best fulfils their learning needs. This suggestion is also similar to other researchers as well as in this study where teachers reported that CPD should support their learning needs.

Regardless of gender, years of teaching experiences, and types of schools, the overall result from both the survey and interviews of Thai teachers on the most common types of CPD is almost identical to Goodall *et al* (2005), Hustler (2003), and other similar studies. As indicated by many studies, the most common form of CPD experienced by teachers was the traditional type of CPD, such as workshops, seminars, conferences, and short courses. By comparing in details the results from this study to the study in England, Goodall *et al* (2005) found that the most common type of CPD “often” provided by the LEA were single workshops, short training programmes, INSET days, and conferences/lectures. However, result from the survey of teachers in Thailand indicated that the most common type of CPD “often” provided by the schools were conferences/lectures, self-directed study, and study groups/groups activity. As can be seen, the CPD provided by the LEA in the UK were of the traditional type of CPD. The CPD provided by the schools in Thailand were both traditional and reformed types of CPD. However, it is not possible to compare these two types of CPD provided by the UK and Thailand as the survey questions from both researchers were not of the same nature. The self-directed and study groups/groups activity were directed at individual and school levels, whereas the single workshops, short training programmes, INSET days, and conferences/lectures were directed at the LEA level.

Looking at the least common types of CPD in Goodall *et al* (2005), some of them had “never” been provided to the teachers by the LEA; these included secondments/sabbatical and HE courses. In Thailand, college coursework, action research, networks, and long courses were rated by teachers as most likely to “never” have been experienced. It is also not possible to compare these two studies fully since Thai teachers were not familiar with secondments and sabbatical and therefore these categories were not included in the survey questionnaires.

It would be difficult to compare all the results of this study with other research in this section as the categories from the surveys were different. The only similar category that was used was action research. However, according to the results from Goodall *et al* (2005) and Clark and Robson (2005), action research was more commonly used in the UK and Scotland than in Thailand. This could be because the facilities and technology in Thailand are not as advanced as in other European countries or in the United States of America thus making it difficult for the Thai teachers to carry out action research.

Hustler (2003) reported that the content of CPD in England had mostly focused on teaching skills and subject knowledge. Hustler’s study produced very similar to the results to those from the teachers and headteachers in Thailand in the present study. The results from the surveys and interviews suggested that the content of CPD participated by Thai teachers were mostly focused around content knowledge of specific subject areas and teaching techniques. The third common content of CPD participated by teachers was classroom management and discipline, followed by curriculum planning, technology, and communication skills.

In recent years, modern technology is an increasingly important subject and is widely used in other countries. There are a wide range of programs designed to help

teachers and staff members improve their use of ICT. Ofsted (2002) reported that many training opportunities for primary school teachers in England were related to national initiatives in literacy, numeracy, and ICT to help them understand how to plan their teaching to raise pupils' standards of achievement. Sturman, Lewis, Morrison, Scott, Smith, Styles, Taggart & Woodthorpe (2005) also indicated that teachers emphasised the need for ICT programs to enhance their teaching and learning in the classrooms.

Sturman *et al* (2005) reported the teachers' views of CPD topics/contents which they feel they will need over the next twelve month. A survey was sent to 10,000 teachers who registered with the GTCE and a total of 4,184 teachers (42%) returned a questionnaire. Overall, most teachers felt that there were a number of CPD topics which they need to undertake in order to develop their expertise. The most common area reported by teachers was using information and communication technology (ICT) in their teaching, followed closely by developing their skills and knowledge in the area of personalised learning. Other topic areas such as motivating under-achieving pupils, strengthening and/or updating skills and knowledge in curriculum subject areas, addressing underachievement in groups of pupils, and improving teaching and learning were identified by teachers as the next common CPD topics. However, the areas in which teachers were less likely to feel they would need CPD over the next year were meeting the needs of ethnic minority pupils, school finance, and teaching pupils with English as a second language.

As can be seen from the results of the survey in this study, Thai teachers rarely participate in the content area of technology as part of their CPD; it is therefore advisable to increase CPD in this area so as to educate the teachers to be able to use technologies, such as computer and computer programs effectively. The teachers can

then take back these experiences to their classroom. However, one of the reasons that the Thai teachers reported from the survey that they were rarely able to attend the content area of technology of CPD might be because funds and facilities were not available in both the schools and outside of the schools.

RQ3: *What are the characteristics of effective CPD?*

There are many characteristics of effective CPD suggested by different researchers. These characteristics are similar to the findings from this study and they are as follows:

- *Type*: Desimone *et al* (2002) has suggested that some types of CPD are superior to others. Traditional approaches such as short courses and conferences it is agreed are not as effective as the reformed approaches, for examples, networking, internships, and study groups. Goodall *et al* (2005) reported that the types of CPD most often rated as “highly effective” by teachers were informal networking, series of workshops, mentoring, and coaching. This is similar to the situation in Thailand, as reported by the teachers in the present study, where long courses, collaborative learning, study groups, and action research were most likely to be rated as “highly effective” types of CPD. Interestingly, both studies show similar results that the “reformed” types of CPD were more effective than the “traditional” form.
- *Content*: Brown *et al* (2001) reported that the content of CPD should be related to the needs of the teachers and appropriate to the target groups. This

is supported by the results of the interviews in this study, where teachers commented that they would prefer to participate in the CPD if the content is relevant to their needs and classroom teaching. Ofsted (2002) also indicated that a number of schools, where the training focus was highly specific and relevant to the needs of teachers, provided good evidence of the positive effects of CPD activities. There were a variety of high quality focused CPD. These include teaching and assessment, planning, and ICT.

- *Duration:* Askew, Brown, Rhodes, Johnson & Wiliam (2003) reported that the length of time spent on CPD had an influence on the effectiveness of CPD in furthering teachers' skills. Analysis of the data collected in their study by questionnaire and interviews of teachers has shown that CPD courses and activities that extend over a period of time would be more appropriate. The results suggested that only those teachers who had engaged in CPD of at least 15 days duration showed higher gains than other teachers. The interviews with headteachers and teachers in this study also confirmed that they preferred a longer period of CPD and saw this as a more appropriate length of time for CPD. However, as reported by teachers from the questionnaires, most of the courses that they attended are between one to two days, rather than a longer duration of time.
- *Time and resources:* Ofsted (2002) suggested that time and resources must be allocated to teachers in order for CPD to be effective. Teachers need a protected time for effective preparation, follow-up, and dissemination. They also need adequate funds for CPD. Therefore, the schools must allocate time

and resources most effectively to best meet the needs of their staff members and students. Goodall *et al* (2005) reported that time and money were the main barriers for CPD identified by the schools in the study. Their results are consistent with the result from this study, where the timing of the CPD is a big issue for Thai teachers. The results from the survey show that over 67% of teachers had attended CPD courses during school hours, and just over 30% of teachers attended CPD over the weekend. This ties in with the results from the interviews where some of the participants revealed that the time of the CPD should not be during school hours. On the other hand, some of the participants were also complaining that they could not fit in outside the school hours. Therefore, to resolve this issue, it is suggested that the schools should have adequate resources to cover those that need to attend CPD.

- *Group activities/collaboration*: Keay (2006) and Good & Weaver (2003) reported that collaborative learning and/or group work is an effective form of continuing professional development. Teachers acquire more knowledge and skills from working in a group, they argued. This is also the same view of effective CPD found among Thai teachers. Results from the survey of Thai teachers revealed that collaborative learning and study groups were the next most highly rated as effective after long courses and self-directed study. The results from the interviews of teachers also show that teachers prefer to work in a group because they are able to share experiences and are able to bring back ideas into the classroom. The results of the surveys in this study differed compared to the results from other researchers in some respect since Thai teachers thought that self-directed study (70%) was more effective than

collaborative learning (66%) and study groups (60%). This could be because of the Thai cultures and different learning styles.

- *Sustained support from headteachers*: Cardno (2005) reports that the teachers will learn more when they receive support and encouragement from their headteachers. Results from the interviews of teachers also indicate that the Thai teachers considered that receiving support and encouragement from their headteachers is one of the main characteristic of effective CPD. It is therefore necessary for the schools to have effective leadership to support teachers in various ways, to manage time, money, as well as implementing planning and designing CPD.

In summary, these characteristics of effective CPD described above can be summarized as 3S. These are *sufficient*, *specific*, and *support*. Firstly, effective CPD should consist of *sufficient* time and resources. The interviews from headteachers and teachers revealed that effective CPD should have funds available in order to support a variety of programs. Secondly, effective CPD should be *specific*. The participants from the interviews expressed high satisfaction in attending certain types of courses. These activities were group activities, collaborative learning, peer-coaching, and active learning. Moreover, the content of CPD needs to be related to the particular needs of individual teachers. The duration of CPD should also be specific and appropriate. Lastly, effective CPD should have the *support* from the headteachers and support from peers. As reported by teachers, they have gained knowledge and skills from learning in groups and were able to take learning back to their classrooms. It is necessary therefore to have support from the headteachers to enable CPD to be

effective, as headteachers can build the culture of a learning community and encourage teachers to keep themselves up to date. It is necessary therefore for the Thai government, headteachers, and administrators to recognize the importance and differentiate the characteristics of effective CPD and of the 3S described above, i.e. *sufficient*, *specific*, and *support* to ensure the growth and successful of CPD programs.

RQ4: *Is CPD making a difference to the quality of teaching in schools?*

There is evidence from many researchers, such as Buchanan *et al* (2006) which shows that CPD has a positive impact on teachers' beliefs and practices. Ofsted (2002) also reported similar results of the benefits impact of CPD on teachers from the schools they inspected. They found that CPD had helped to improve teaching, leadership, and management skills of teachers. Many teachers have made significant gains in their subject knowledge and skills. They were more competent in their teaching, and were more confident in adapting the curriculum to suit their students. Additionally, these teachers were able to lead school discussions, work with their peers, and manage classroom more effectively. The teachers' sense of isolation was also reduced as a result of collaborative working. This finding matches the results from this study, where headteachers and teachers reported similar benefits as a result of CPD to individual teachers. Most of the teachers in this study reported that CPD had made a difference to their working lives.

A high percentage of teachers from the survey indicated that CPD experiences have resulted in positive changes in teaching practice, knowledge and skills improvement, overall school improvement, positive changes in attitudes and views of teachers, and increased collaboration with colleagues. From the analysis of the quantitative data, teachers reported that there were greater impacts at the individual

teacher level than school level. Results from the survey also indicated that a high percentage of teachers agreed that they had used the new knowledge and skills acquired from CPD and adapted into their classroom teaching. Only a small percentage of teachers suggested that they had attempted to use new knowledge and skills but they were not yet comfortable in using them.

Headteachers and teachers from the interviews also expressed their perceptions of the impact of teachers' participation at the individual, classroom, and school level. At the individual level, the teachers felt that they had acquired new knowledge and skills and they were more confident in their subject areas of teaching. At the classroom level, teachers reported that they were able to improve their teaching practices and change their teaching styles. Finally, at the school level, teachers indicated that they had increased their good relationship among peers, and were able to discuss and communicate effectively. Additionally, it was suggested that this will also increase the teachers to work in harmony with one another.

The analysis of the interviews revealed a belief that if there is a benefit to the teachers, the schools will also benefit because the teachers will be able to teach their students more effectively. This will therefore make the schools more popular and become well known. However, some of the teachers had stressed that not all CPD had an impact and that the impact varied depending on the quality of the CPD, and whether or not teachers would bring the experiences gained from the CPD into the classroom.

In this study, it is clear from the teachers' belief that CPD can make a significant impact to individual teachers and the schools. However, the impact of CPD discussed above is debatable and further investigation might be required to investigate this further since this study only depends on the perceptions of the

headteachers and teachers respectively. Therefore, headteachers might need to consider monitoring and evaluating the benefits of CPD to teachers and schools in order to gain more conclusive evidence of the impact of CPD.

RQ5: Are there any relationships between CPD and student achievement and behaviour?

Results from the surveys and interviews suggest that there is a relationship between CPD and the benefits to students as perceived by the headteachers and teachers in the study. These results are consistent with those of Flecknoe (2000) and Cordingley *et al* (2003) which showed that CPD had a significant impact on student attitudes and achievement. Cordingley *et al* (2003) indicated that CPD can benefit the students as well as individual teachers and the schools. The attitudes of the students were changed as a result of CPD. Students were seen to be more confident, motivated, and gained greater satisfaction from taking an active part in the schools. Moreover, there were improvements in student performance, such as better test results and greater ability to understand the specific subjects effectively.

From the survey results, a high percentage of teachers felt that CPD has resulted in improvement performance or behaviours of the students, as well as increased learning outcomes. However, the analysis of the present survey with respect to the impact of CPD indicated that there were greater impacts at individual teachers' level than students' level. Moreover, a high percentage of teachers reported that there were greater impacts on increased learning outcomes of the students than improved performance or behaviours of the students.

Results from the interviews of headteachers and teachers also supported the view that CPD can improve student learning experiences. Although the interviewees

did not suggest that CPD had an impact on the improved performance or behaviours of the students, both headteachers and teachers felt that students' learning outcomes had improved because they demonstrated greater knowledge and understanding of the subject content. In any case, these impacts were judged to vary according to the quality of the CPD experiences.

On reflection, I think I should have asked the interviewees more specifically regarding the impact of CPD on student behaviour. Additionally, the above analyses of the impact of CPD to student achievement were only from the headteachers' and teachers' perceptions. There is little evidence between the relationship of CPD and student based on the study of student outcomes. This is the area that need more research. In order to evaluate the impact of CPD on student achievement and behaviour, other more direct methods are necessary. There are other ways to evaluate the impact of CPD to the students, such as the results of students' achievements and classroom observations.

In any case, it would be difficult currently for the headteachers and teachers to gain an in depth evaluation of the effects of CPD at the individual, schools, and student level as the analysis from the interviews of headteachers shows that the common method used for evaluation were from the participants' feedback. Only small number of teachers used classroom observations and/or students' achievements to evaluate the effectiveness of CPD. This is an area for development to provide firmer evidence of impact of CPD.

RQ6: *Are there any gender differences in the teachers' views and preferences for CPD?*

In general, there were gender differences in the teachers' views and preferences across the study. Results from the survey in this study are consistent with Sturman *et al* (2005) and IPSE (2006) which shows that female teachers experienced more CPD than male teachers. Similarly, there were gender differences between the types of CPD participated by male and female teachers, and these results were also consistent between the IPSE and present studies. Male teachers were more likely to have observed peers and to have been supported by a mentor and peers. Female teachers were more likely to have participated in collaborative learning and developed their learning individually (IPSE, 2006). The present study also shows that female teachers participated more in action research and self-directed study than male teachers.

Sturman *et al* (2005) indicated that female more than male teachers were likely to report that they need CPD in areas such as teaching and learning, as well as the curriculum. Interestingly, results on a comparison of the content of CPD participated by male and female teachers in this study showed the only significant difference concerned curriculum planning. Female more than male teachers were likely to have participated in the content of a curriculum planning.

The teacher survey reported by IPSE (2006) shows that female teachers were more positive about CPD than male teachers. Female teachers were likely to indicate that they need more opportunities for CPD. The results from this study are consistent with those from the IPSE where female teachers were more likely than male teachers to have a positive view concerning CPD. Most CPD activities in the present study were rated as "highly effective" by female more than male teachers. More female

than male teachers indicated that CPD had a beneficial impact for knowledge and skills improvement and overall school improvement. They also felt that CPD had a beneficial impact not only in enhancing their knowledge and teaching practices, but also in improving the learning outcomes of the students.

A comparison of this study and Goodall *et al* (2005), however, has shown different results. Whilst this study has shown a significant difference between male and female teachers regarding the effectiveness of CPD, Goodall *et al* dataset found no gender differences in views of the effectiveness of different forms of CPD among teachers. Most CPD activities in this study were rated as “highly effective” by female more than male teachers. These activities were workshop series/long courses, college coursework, study groups/group activities, work-shadowing, collaborative learning, networks, teleconference/ video, action research, and self-directed study.

8.3) Critical Reflections on the Thesis

In this section, I shall critically examine four main aspects of the research. These are the problematic nature of the research, the methodology, the cultural issue, and the implications of the study.

1) *Problematic nature*: There was not much literature of CPD from Thailand. I was trying to apply ideas derived mainly from the research in the UK and USA to the Thai contexts. The questionnaires and instruments were mainly adapted from the study of Goodall *et al* (2005), who carried out a large scale study of CPD in England. This raised issues of generalizability of findings from other countries to Thailand and also from Thailand to other countries. The methodology used and the cultural issue will be addressed as follows:

2) *Methodology*: The methodology adopted in this research included both surveys and interviews. For the survey, I attempted to take a stratified random of schools. I tried to get five hundred schools which represented approximately 50% of schools in the province. In so doing, I stratified the total number of the schools into categories (e.g. primary), and tried to select 50% of the sample in each category. However, as I was not able to find the address of every school, I had to use substitute schools from within the category in those cases. Therefore, my sample was not entirely random.

I asked the headteachers to hand 2-3 surveys to teachers randomly. Therefore, selection of the teachers was controlled by the headteachers. It is possible that the headteachers may have been selective in choosing the teachers surveyed and this may have resulted in the findings being biased. I tried to address this problem by providing each teacher an envelope for them to put their responses in, seal it, and return the sealed envelope to the headteachers to send back to me. This method was intended to give them confidentiality and respect.

In order to get a range of interviewees, I selected 15 schools to represent different types of schools. I also selected these schools within the distance of one hour of travelling. For practical reasons I also selected the schools where I was able to use the contact that had already been established. This may have led to a biased sample. However, the proportion that I took and method did ensure a variety of schools and that would offset the limitation to some extent.

I interviewed all of the 15 headteachers prior to interviewing the teachers. I asked the headteachers to select two teachers from different subjects taught with different levels of experiences for interviews. This meant that it was the

headteachers who chose the sample and it is possible that the positive comments received from the teachers were as a result of this.

There are also issue of validity concerning the issues of interpretation of the results. These include the understanding of the questions and interpretation of the findings. In so doing, I periodically checked with the interviewees that they understood my questions. I also repeatedly checked their answers to make sure that I interpreted their answers correctly. I also made sure that I had an accurate record of each interview by using a tape recorder. However, I think that many of the teachers may have had a tendency to provide positive comments, which is part of Thai culture (see cultural issue). Moreover, as I analyzed all the interviews, I made judgments about the main themes and the example quotations to identify these themes. Therefore, some bias may have occurred by my interpretation of the interviewees' views.

- 3) *Cultural issue*: Although I have not found any evidence from the research with respect to Thai people “are trying to be positive”, it is my own belief as a Thai person that most Thai people “try to be positive”. I have tried to compare the results of my study to Goodall *et al* (2005), and I found that most of their samples also had positive views concerning CPD. Therefore, there is a tendency of either teachers had positive views of CPD or it is possible that teachers were more likely to respond in a positive way. Because of this, as well as for confidentiality, I tried to address this problem by providing an envelope to each teacher that could be sealed and they could send their responses in without the headteachers seeing their answers. This might not entirely prevent over-positive responses, but I hoped this action could reduce the tendency. In the interviews, I urged the interviewees to

respond honestly as well as advising them that the data were confidential. I therefore had two different approaches, each of which produced confidential information. Consequently, the tendency to be over-positive was offset to some extent by the use of combined methods as this approach allowed privacy and triangulation of data. Nevertheless, I cannot assume this tendency was completely prevented and the data therefore need to be interpreted accordingly.

Any study has a number of limitations. The use of a combined methods design and the care that I took with the sample selection, construction of instruments, and analysis limited the threat to validity but could not remove these completely. Some concern the methodology, for example, the need to ask the headteachers to select the teachers which is an issue of general methodology, but I believe that some threat of validity reflects Thai culture where in both the questionnaire and interviews the respondent may have been more positive than was really the case.

- 4) *Implications:* This research was conducted in Thailand and was aimed at Thai teachers. Therefore, other researchers from other countries need to be cautious when using the results from this study. This is due to differences in the nature of the research questions used, the methodology when conducting the study, and the cultural issues as mentioned above. Other researchers may find the results from this study useful when making comparisons with other studies and/or to further investigate in more details.

Overall, the present study has found that Thai teachers have generally similar views to teachers in other countries regarding CPD. Comparisons across studies are not always exactly possible as different questions are used in different

studies. However, it is possible to draw some conclusions. For example, Thai teachers, as well as teachers in other countries, had experienced a wide range of CPD. The most common types and contents of CPD experienced by these teachers were the traditional type, such as workshops, seminars, conferences, and short courses which mostly focused on improving teaching skills and subject knowledge. Most of these teachers also had a positive view that CPD can be a beneficial to the teachers, schools, and students. Additionally, this study found similar characteristics of effective CPD, which were to have: sufficient time and money, specific types and content that related to the needs of the teachers, and support from headteachers.

Some differences were also evident from this study to other studies. For example, the teachers in England experienced more ICT contents than Thai teachers. The effectiveness of the types of CPD were slightly different, as teachers in England reported that mentoring and coaching were more “highly effective” than teachers in Thailand. There was also gender differences found in this study regarding the effectiveness of CPD, whilst Goodall *et al*’ dataset found no gender differences.

It is interesting to note the general positive views held in different countries about the benefits and the effectiveness of the different types of CPD, and the general negative views regarding time and money to undertake CPD amongst teachers. Therefore, it can be seen that the roles and responsibilities of headteachers in different countries are more complex, and that headteachers need to allocate time and money effectively, and support a wide range of CPD that meet the needs of their staff members. Headteachers also need to consider the benefits

and effectiveness of different types of CPD, as the teachers from each school and each country may have different needs.

These findings support the use of CPD and also the requirement that CPD be mandatory in those countries that have a regulatory system for teachers such as England with the GTCE. However, these findings also indicate the relatively limited amount of evidence for the effectiveness of CPD in terms of teacher, and especially pupil outcomes. Some evidence of the impact of CPD on student attitudes and achievement is available, as reported by Cordingley *et al* (2003). But the lack of evidence reflects the bias in evaluation methods for CPD found by Goodall *et al* (2005), where it was much less common to attempt to measure outcomes than teacher satisfaction and process variables.

In summary, the comparison with other studies shows that there are some similarities and differences of results from both the surveys and interviews. It would be difficult to compare like for like in some of the results between my study and other studies, since some of the questions used for the surveys/interviews were slightly different to other studies. The reason for this is because the CPD is only recently being adopted in Thailand. When I carried out the pilot, it was evident that some of the activities were not being used in Thailand. Thai people may have heard of the activity but not familiar with. I, therefore, had to adapt some of the questions to suit.

Prior to using the results from this study, the researchers should be cautious when attempting to generalize the findings. There are many factors that will affect the results of the study. These include cultural issues, environment, and the nature of the instrument/questionnaires. In addition, those who develop

and implement CPD from other country can adapt the findings from this study but should take into account of these factors when carry out researches.

8.4) Recommendations

Successful delivery of CPD depends on many factors. There should be support from both the government and headteachers to promote CPD for teachers throughout their entire teaching career. As Loveder (2005) argues, CPD is too important to be left alone to the individual teachers' own motivation. Therefore, CPD should be operated on a regular basis, and all teachers need the support both time-wise and financially.

Effective leadership in Schools

The recommendations made here for implementing CPD cannot be succeed without the support from headteachers. Headteachers play a key role in contributing to the success of the schools. All headteachers need to facilitate the development needs of their staff members. Headteachers should establish a CPD team coordinator to help them plan and design CPD activities. They also need to implement a flexible approach and flexible time for staff members to undertake CPD, and evaluate the effectiveness of the programs regularly to ensure their effectiveness and the value of money.

- *A CPD team coordinator:* Headteachers can establish a CPD team coordinator to assist and work in organizing and coordinating CPD. The CPD team coordinators can work together with headteachers to fulfilling CPD needs of the staff members in schools. Dudley LA CPD Policy (2008) suggests a CPD

policy as part of a General Teaching Council (GTC) pilot project that the school should do the following:

- Have a named CPD coordinator who shall be responsible for identifying the CPD needs
- The CPD coordinator shall receive training and attend useful sessions as appropriate to fulfill their role effectively
- The CPD coordinator shall be responsible annually for discussing with headteachers concerning the main CPD priorities and budgetary implications for addressing the needs of the staff members

Headteachers need to consider the particular needs of the schools, individual teachers, and the local and national priorities when planning for CPD activities. There are many ways and methods to identify the CPD needs. These CPD needs can be arising at the individual, group, or at whole-school level. Approaches that can be used to identify the CPD needs include the following (based on Craft, 1996 & Oldroyd & Hall, 1991):

- Self-appraisal / self-review: Use the appraisal of individual teachers to build on their strengths and improve their performance both in the classroom and in all other aspects of their works
- Interviews / group discussions: Interviews with head of department to get in-depth information or have a group discussions / full staff meeting

- Questionnaires: Use questionnaire surveys to gain the quantitative information of the participants' needs.
 - Observations: Observe teachers' performance in the classroom
 - School audit / School development plan: A school review of its strengths and weaknesses

- *A release schedule time for CPD*: Headteachers can provide release time of 1-2 hours for teachers to undertake CPD. Some headteachers from the interviews in this study reported that they allocated the flexible time for teachers' professional development. Teachers can attend training sessions, have group discussions with their colleagues within the same department, or work on their research projects to update their knowledge and skills. However, this might require financial support and human resources for a supply cover.

- *A flexible approach of CPD*: Recognizing that workload is an issue for the participation of teachers in CPD, headteachers can design flexible CPD programs to meet the needs of the staff members. For example, headteachers can use ICT to enable teachers to network. The analysis of interviews from headteachers and teachers also suggested the benefits used of computers and networks. The schools provide computers and networks for teachers so that they can surf the internet and access the learning materials whenever they have free time.

- *A procedure for evaluation of CPD:* A variety of methods and approaches to evaluate the impact of CPD are presented in the literature. For example, many evaluations may be carried out through questionnaires, interviews, or classroom observations. In some cases, student achievement data maybe collected to gather information, as well as the data on the amount of budget devolved to the schools to draw conclusions on the cost-effectiveness (Muijs & Lindsay, 2008)

Muijs & Lindsay (2008) suggested the evaluation models developed from Guskey (2000). They suggested that the evaluators should work backwards when designing CPD evaluations, in order to ensure that the final goal of improving student outcomes, and the issues of cost-effectiveness of CPD would be evaluated. Their evaluation model included the five from Guskey (2000) plus two additional elements, referred to here as levels also.

- Level 1: participant's reactions
- Level 2: participants' learning from CPD
- Level 3: organizational support and change
- Level 4: participants' use of new knowledge and skills
- Level 5: students' outcomes
- Level 6: Students' behaviours
- Level 7: value for money

CPD funding

In Thailand, the Ministry of Education annually devolves funds to the Provincial Ministries of Education. The overall budget is then managed and allocated

to the schools by the Provincial Ministries of Education. Both public and private schools receive the same amount of funding per student every year. However, only public schools receive other budgets (such as teacher salaries and other expenditure costs), depending on the size of the schools, the number of teachers, and the schools' development plans.

CPD funding for public and private schools in Thailand comes from different sources. For private schools, CPD funding comes from an allocation to the school development plans from the individual school budget. On the other hand, CPD funding for public schools comes from an annual fund from the Provincial Ministries of Education to the school development plans identified from a schools' core budget. This, however, does not mean that every development activity identified by a school would be funded.

For each school, the level of spending on CPD, as well as the total amount of CPD funding varies from year to year. Factors influencing CPD funding for an individual schools include:

- The current budgetary position and resources available for CPD
- The school development plans that are identified from the school's core budget

If the CPD programs undertaken outside of the schools are organized by the Provincial Ministries of Education, the attendances at these activities are generally free of charge. However, CPD attendances need to pay for the registration fees in most cases if the CPD programs undertaken are organized by the schools, Colleges or

Universities, and other private agencies. The costs to undertake CPD outside of the schools generally cover the aspects of these areas where applicable:

- Registration fees
- Travel
- Supply cover

Campbell, Lindsay & Phillips (2002) discuss the data from a national program of professional development projects for 185 primary headteachers in the UK. They found that across 12 projects, the highest proportion of expenditure in schools was Training and Consultancy fees (34%). This was followed by Supply cover (22%), Discretionary funding to schools (17%), Venues/accommodation/travel (10%), Local evaluation (7%), Administration (6%), and Dissemination (2%). These proportions imply that most of the expenditure was used to cover the costs to enable staff members to attend the training sessions. However, the authors also found that the amount of funding allocated to schools to be used at their discretion for school-based activity was less than one-fifth of spending.

Attendance to CPD activities in Thailand seems to be so costly to the schools since funds are limited. A lack of funds is a barrier that most frustrated many of the headteachers and teachers interviewed in the study, especially those who come from the public rural schools. There is little support from government funding to undertake CPD courses both inside and outside of the schools. Although attendances to CPD are free of charge if the programs are carried out by the Provincial Ministries of Education, those public rural schools are concerned with the cost of travel, as well as a supply cover while teachers are away from the classroom.

Schools need adequate money and resources to implement and support teachers to undertake CPD. Headteachers and teachers from the interviews found it difficult to have time out of the classrooms with limited financial support and other resources. Some of the schools, they reported, have only one or two teachers within one department, and there would be no teachers to teach students if the schools allow one teacher to attend the CPD sessions.

The Thai Government should increase the funding available to support CPD for teachers and staff members. Since CPD funding varies from year to year, the Government should provide a fixed amount of money for CPD to the schools each year to ensure that all schools receive minimum funding. In addition, the Government should consider providing a variable amount of money as required by the schools on a reasonable and equitable basis. Both fixed and variable amounts of money are to be used in supporting and ensuring that funding is distributed to schools appropriately and fairly to maximize opportunity for all.

Funding for CPD in Thailand could also go to individual teachers as similar in the UK, where the Government has provided funding for training bursaries of teachers to meet their particular needs (CPD week, 2006). CPD funding could be distributed directly to individual teachers as a voucher system, giving them more choices and flexibility to pursue their CPD needs. Doing so, teachers with high workloads can select to attend evening or weekend sessions instead of finding a supply cover.

Voluntary / Mandatory CPD Scheme

Egan & Simmonds (2002) reported that the requirement for teachers to undertake CPD varies from country to country. In some countries CPD is voluntary, whereas in other countries CPD is compulsory. For example, in the UK and

Australia, CPD has been a voluntary (although expected and some would argue an obligatory) aspect of professional practice. On the other hand, other countries as USA, New Zealand, and Korea made CPD for teachers compulsory. These countries have a strict regulation and requirement for teachers to participate in CPD. Teachers are required to undertake the specified amount of CPD per year and are expected to record their CPD activity.

There is no CPD Scheme or any formal requirements for teachers in Thailand to undertake and record CPD. It is up to the schools and individual teachers to update and extend their knowledge and skills through CPD. As a result, teachers at some schools (especially those with poor and low standards) could ignore CPD or participate least even though they are most in need of updating their knowledge and skills.

The Ministry of Education or any Educational Authority should implement a CPD Scheme to maintain quality teaching and enable teachers to demonstrate their ongoing commitment. The CPD Scheme should be initially operated on a voluntary basis and progress to the mandatory phase (if needed) at an opportune time. The CPD Scheme can promote the value of CPD and motivate teachers to undertake CPD. It can rely on self-regulation and allow each individual teacher to take personal responsibility for CPD participation and monitoring.

Teachers should be encouraged to participate in CPD activities. They should be encouraged to undertake a minimum requirement of CPD hours and keep a record of their learning experiences as evidence of their achievements. In so doing, the Educational Authority should provide guidelines with support and assistance for teachers to the various types of CPD activities, as well as a CPD record form to plan and record their CPD. A certificate of CPD attainment or any rewards may be award

as a token of appreciation to teachers who meet the target for their self-enrichment efforts and support for the CPD Scheme.

The CPD Scheme should be logically structured with the ability to evolve. The first time of introducing the CPD Scheme could give teachers a long period of time to accumulate the minimum requirements and then shorten to an annual requirement. The CPD Scheme should also be accessible, affordable, and flexible enough to enable all teachers to meet the requirements. This could be achieved by providing and suggesting a wide range of CPD activities and topics for teachers to select, giving them more freedom and choices.

Mandatory CPD Scheme could be introduced after initially voluntary Scheme. It can be seen as one of a method to ensure that all teachers undertake a minimum requirement of CPD. There may be no need to implement a mandatory policy if all teachers undertake CPD voluntarily.

The implementation of either a voluntary or mandatory CPD Scheme may require a very careful consideration. The government needs time, money, and other resources to implement a CPD Scheme and assist teachers to comply. There may also be additional barriers for the schools and individual teachers to support and undertake CPD. The cost of CPD attendance, lack of time, lack of staff cover can be a major stress in relation to the ability to participate in CPD activities.

CPD is an important component to maintain and update skills and expertise of teachers. All teachers have an essential role to undertake CPD. The CPD Scheme, therefore, should be introduced for all teachers in Thailand as guidelines to ensure that all teachers maintain the standards of competence.

8.5) Conclusions

This chapter provides conclusion a discussion of the results of the study and recommendations derived from the evidence from this study. Teachers and headteachers reported positive views of CPD. CPD in their views can benefit the individual teacher, schools, and students. This area, however, required further investigation. The chapter also recommends that, as a guideline, effective CPD requires a strong CPD leadership, available funding, and either a voluntary or a mandatory CPD scheme.

Chapter 9

Conclusion, Limitations, and Future Studies

9.1) Introduction

Continuing professional development (CPD) for teachers is increasingly acknowledged as a means to improve teaching quality in many countries throughout the world. Most educational leaders encourage teachers to engage in CPD activities to develop a new professionalism and ensure the success of educational reform. Unfortunately, traditional CPD programs offered by educational leaders are ineffective and unable to increase teachers' knowledge or advance student learning.

The Thailand Education Reform Project (2002) reported that many teachers in Thailand lack knowledge and confidence in the subject they are assigned to teach. Most teachers had attended few or no CPD training sessions relevant to their teaching since they graduated. These teachers revealed a high demand for CPD in areas where they lacked of confidence at all levels in schools.

In this thesis, I have explored the types of CPD experienced by Thai teachers, their effectiveness and relevance to individual teachers, the schools, and in turn, the students. This chapter summarizes the main findings from the study and draws out their limitations, as well as raises the issues for further studies in this area.

9.2) Summary

A number of key themes and brief recommendations were made on the basis of study findings and these will be summarized in this section.

- The purpose of this study was to support effective CPD experiences for teachers and explore the types of CPD that teachers in Chiang Mai, Thailand had experienced. In order to do this, a combination of methods, namely teachers' survey and interviewing of headteachers and teachers were used.
- From the surveys and interviews, teachers indicated that CPD was mostly undertaken during school hours. The length of CPD activities usually took one to two days. Some teachers interviewed had reservations over the time of the CPD as this may affect the students.
- The findings of this study indicated that Thai teachers had experienced a wide range of CPD activities. The most common types of CPD, from the survey, reported by the teachers were conferences/lectures, self-directed study, and study groups/group activities. However, as reported by headteachers and teachers, only certain types of CPD were judged to be effective. Therefore, in order to experience the highest cost-effective value, headteachers, educators, governments or any authorities should select or evaluate CPD programs that relate to the needs of a particular group of teachers.
- The findings of the survey study indicated that most of the Thai teachers wanted CPD addressing content knowledge of a specific subject area and teaching techniques. These results are also consistent with the interviews undertaken in this study. This is very important as the Thai government had reported that the Thai teachers lacked content knowledge of their specific subject. All of the schools and the ESA currently support and provide the

content areas that teachers consider are needed. This is therefore consistent with the study.

- The study indicated that the ESA and schools were the main providers of CPD for teachers. Although the results of the survey indicated that teachers felt that there were sufficient time, money, and other resources to support CPD, the findings from interviews indicated that there is a barrier of funding and time for teachers to participate in CPD. This may be one limitation of a survey due to the fact that the surveys were conducted using ratings on scales. When interviews were conducted, the opinions of the teachers could be accessed by careful questions and probes and were arguably more fully and validly expressed by the participants, and therefore, it is concluded that the opinions of the interviews participants indicate that the Thai government and schools should fully support the CPD.
- Most teachers from the surveys reported that they acquire new skills and knowledge by participating in the CPD programs. The teachers use the skills and knowledge they acquire, from participating in the CPD, in their classrooms. This, therefore, confirms that it is essential to support CPD.
- Both headteachers and teachers from the surveys and interviews were positive about the benefits of CPD. A high percentage of teachers from the survey reported that they have seen positive changes in teaching practice. Additionally, the teachers also indicated that they have seen positive improvements to the organization. This is due to the increase in collaborative

learning and building of community learning. The teachers agreed that they see the improvement in their students.

9.3) Limitations

This research is of an exploratory nature, and therefore, has both strengths and weakness in its interpretations. However, this section will refer only to the limitations of the study in this section. The followings are limitations that apply to this study:

- The first limitation of this study is that the teacher survey was a measure of teachers' perceptions, and so the results may have revealed more about their opinions than their behaviours.
- Another possible limitation deals with the methods used in this study which were the surveys of teachers and interviews of headteachers and teachers. The study did not observe classroom practice and measure whether teachers made some changes in the classroom as a result of CPD.
- This study did not include surveys of or observe students, therefore, the results of the benefits of CPD to students relied only on headteachers' and teachers' perceptions.
- The interviews used only small number of participants. Therefore, the results are a limited range of participants' points of view. Moreover, the study took place in a province of Chiang Mai only.

- The analyses of interviews were subjected to interpretation by the researcher. The researcher had also primarily undertaken data analyses singly.
- The duration and the data collected were restricted by both time and resources.

9.4) Further Investigations

This study is just the beginning of an investigation to explore the types and forms of CPD that teachers experience in Thailand. There is a great deal of further research that could be done. The recommendations for further research might be required to give a better understanding of the benefits of CPD to the teachers, schools, and students. Based on the current findings, there are at least three important topics raised by this study that deserve further investigations. These include:

- The focus in the study of the effectiveness of community learning could be a further area for research. Findings from the teachers' survey and interviews of headteachers and teachers suggested that learning together with peers, such as group discussion, group activities, work-shadowing, collaborative, mentoring, coaching, networkings were effective for teachers to gain skills and knowledge and change their teaching practice. Therefore, further study in this area could be useful to refine our understanding.
- Observation of teachers' changes of teaching practice. In order to investigate whether the teachers really change their teaching practices as a result of CPD, data should be collected from multiple sources. It would thus be valuable to use other methods of investigation, from a different theoretical and research

design framework such as case study including observation or longitudinal study with a pre- and post-test design together with investigation of the processes of change.

- More research is needed to observe students' outcomes as a result of continuing professional development. The views from headteachers and teachers were that the students will benefit from CPD learning. Classroom observations would be useful to support this study.

9.5) Conclusion

The results of the research provide a rich description of how CPD is used in Thailand. They also identify the roles of effective headteachers, explore the types of CPD for teachers, explore the characteristics of effective CPD, identify the teachers' use of new knowledge and skills, and identify the benefits of CPD to teachers, schools, and students. A number of findings and suggestions have been identified in the research; the most important issues have been summarized in the beginning of this chapter.

The most important issue that headteachers and teachers in Thailand were concerned of were funding and resources. Without the funds and resources, CPD can not be as highly effective as it should be. It is necessary for headteachers to provide support, allocate funds and resources, dedicate time, give motivation to their teachers, and evaluate the effectiveness of CPD to ensure that CPD would be of the highest value. Teachers in Thailand experience many different types and content of CPD, however, they considered that some types were more effective than others.

The characteristics of effective CPD found in this study are that CPD is an ongoing process and job-embedded. It focuses on the content areas of the subject matters that teachers are expected to teach. Effective continuing professional development also encourages collaboration among teachers with active learning to generate and exchange new ideas.

In doing so, effective CPD will require strong leadership from the headteachers to implement and support such changes. Headteachers should provide appropriate time and resources for CPD to teachers, as well as build school cultures that encourage collaborative interaction of all staff members. Headteachers should also evaluate and dedicate time for CPD, as well as allocate funds and resources to support teacher learning. It is therefore the role and responsibility of the headteachers to encourage meaningful conversations among teachers about learning and teaching to enhance effective CPD.

Continuing professional development is a necessity for school improvement. It has a positive effect upon the individual teachers, schools, and students. It is accepted that CPD is valuable for teachers to increase their knowledge and skills to be able to teach students effectively. Effective teachers can bring students to high level of standards and achievements. Teachers who are fluent in their subject knowledge can do more and can help students learn more. Therefore, it is not surprising why many educators, administrators, headteachers, and teachers are interested in CPD.

In Thailand, it might be difficult for schools to fully support effective CPD due to the limited funding and resources. It is therefore imperative for the Thai government to provide funding for CPD, as well as guidelines of what constitutes effective CPD to the schools to ensure the high quality teacher learning.

Finally, a deeper understanding of the types and characteristics of CPD and the roles of headteachers are important factors for gaining insight into effective CPD. Further studies and research are also recommended to gain more knowledge and deeper understanding of the effectiveness of CPD to teachers and students. I hope this research is of valuable to those who are interested in continuing professional development and find this thesis useful.

References

- Advice, P. (2000). Study Design in Qualitative Research-1: Developing Questions and Assessing Resource Needs. *Education for Health*, 13, 2, 2000, 251-261.
- Arksey, H. & Knight, P. (1999). *Interviewing for Social Scientists*. London: Sage Publications.
- Arthura, L., Marlandb, H., Pillc, A. & Rea, T. (2006). Postgraduate Professional Development for teachers: motivational and inhibiting factors affecting the completion of awards. *Journal of In-Service Education*, 32, 3, pp. 201-219.
- Askew, M., Brown, M., Rhodes, V., Johnson, D. & Wiliam, D. (2003). Research for Teachers: Effective Teachers of Numeracy. Retrieved 17 June, 2009 from web site: <http://www.gtce.org.uk/pdf/teachers/rft/numeracy0403>
- Bailey, K., Curtis, A., & Nunan, D. (2001) *Pursuing Professional Development: The Self As Source*. London: Thomson Learning, Inc.
- Barlow, P. (1999). *Professional Development Requirements for the Renewal of Licensing in the Professions: A Study*. Adelaide: Teachers Registration Board of Southern Australia.
- Bezzina, C. (2006). Views from the trenches: beginning teachers' perceptions about their professional development. *Journal of In-service Education*, 32, 4, 411-430.
- Blandford, S. (2000). *Managing Professional Development in Schools*. Suffolk: St Edmundsbury Press.
- Bolam, R. (2000). Emerging policy trends: Some implications for continuing professional development. *Journal of In-service Education*, 26, 267-280.
- Boyle, B., Lamprianou, I., & Boyle, T. (2005). A Longitudinal Study of Teacher Change: What makes professional development effective? Report of the second year of the study. *School Effectiveness and School Improvement*, 16, 1-27
- Boyle, B., & Lamprianou, J. (2006). What is the point of professional development? The first three years of a longitudinal research survey. *Journal of In-service Education*, 32, 1, 129-131.
- Boyle, B., While, D., & Boyle, T. (2004). A longitudinal study of teacher change: what makes professional development effective? *The curriculum Journal*, 15, 1, 45-68.
- Bredeson, P. (2000). Teacher Learning as Work and at Work: exploring the content and contexts of teacher professional development. *Journal of In-service Education*, 26, 63-72.

- Bredeson, P. (2002). The architecture of professional development: materials, messages and meaning. *International Journal of Educational Research*, 37, 661-675.
- British Educational Research Association. (2004) Revised Ethical Guidelines for Educational Research (2004). Retrieved 8 June, 2009 from website: <http://www.bera.ac.uk/files/2008/09/ethica1.pdf>
- British Psychological Society. (2006). Retrieved 25 October, 2006 from web site: <http://www.bps.org.uk/>
- Brown, S., Edmonds, S., Lee, B. (2001). *Continuing professional development: LEA and school support for teachers*. Berkshire: National Foundation for Educational Research.
- Bubb, S. (2004). *The insider's guide to early professional development: succeed in your first five years as a teacher*. London and New York: RoutledgeFalmer
- Buchanan, M., Morgan, M., Cooney, M., & Gerharter, Mitch. (2006). The University of Wyoming Early Childhood Summer Institute: A Model for Professional Development that Leads to Changes in Practice. *Journal of Early Childhood Teacher Education*, 27, 161-169.
- Bureau of Inspection and Evaluation (2007) retrieved 3, November, 2008 from web site: <http://www.inspect1.moe.go.th/inspection/ON%20WEB/ChiangMai/studentCM.htm>
- Bureau of Inspection and Evaluation (2007) retrieved 3, November, 2008 from web site: <http://www.inspect1.moe.go.th/inspection/ON%20WEB/ChiangMai/teacherCM.htm>
- Bureau of International Cooperation. (2005). *Education System in Thailand*. Bangkok: The Office of the Permanent Secretary for Education.
- Bureau of International Cooperation. (2005). *Supporting Professional Development*. Bangkok: The Office of the Permanent Secretary for Education.
- Caddigan, M. & Pozzuto, R. (2008). Types of Knowledge, Forms of Practice. *The Qualitative Report*, 13, 1, pp. 61-77. Also retrieved from <http://www.nova.edu/ssss/QR/QR13-1/arnd-caddigan.pdf>
- Campbell, A. (2003). Teachers' Research and Professional Development in England: some questions, issues, and concerns. *Journal of In-service Education*, 29, 375-388
- Campbell, A., McNamara, O. & Gilroy, P. (2004). *Practitioner Research and Professional Development in Education*. London: Paul Chapman Publishing.

- Campbell, J., Lindsay, G. & Phillips, E. (2002). Professional Development of Primary School Headteachers: the paradox of ownership. *School Leadership & Management*, 22, 4, pp. 000-000.
- Cantrell, S., & Hugges, H. (2008). Teacher Efficacy and Content Literacy Implementation: An Exploration of the Effects of Extended Professional Development with Coaching. *Journal of Literacy Research*, 40, 95-127.
- Cardno, C. (2005). Leadership and professional development: the quiet revolution. *International Journal of Educational Management*, 19, 292-306.
- Chartered Institute of Management Accountants. (2008). Retrieved 12 April, 2008 from web site: <http://www.cimaglobal.com/cps/rde/xchg/live/root.xsl/index.htm>
- Chartered Institute of Personnel and Development. (2008). Retrieved 12 April, 2008 from web site: <http://www.cipd.co.uk/default.cipd>
- Charupan, M. (2002). *Ensuring Opportunities for the Professional Development of Teachers in Thailand*. Bangkok: ONEC.
- Charupan, M & Leksuksri (2000). *Improving Teacher Effectiveness Through Certification: A Case of Thailand*. Bangkok: ONEC.
- Cheetham, G., & Chivers, G. (2005). *Professions, Competence and Informal Learning*. Cheltenham: Edward Elgar Publishing Limited.
- Chulalongkorn University. (2006). Retrieved 17 August, 2006 from web site: <http://www.academic.chula.ac.th/thaiver/index.htm>
- Chulavatnatol, M. (1997). *Recent Innovations in teacher education and teacher reforms in Thailand*. Bangkok: ONEC.
- Clarke, D, & Hollingsworth, H. (2002). Elaborating a model of teacher professional growth. *Teaching and Teacher Education*, 18, 947–967.
- Clarke, R. & Robson, D. (2005). Enhancing Professional Practice and Standards through Continuing Professional Development. Paper presented at the BERA Annual Conference, September 2005. Retrieved 7 December, 2005 from web site: <http://www.leeds.ac.uk/educol/documents/143745.htm>
- Cohen, L., Manion, L. & Keith, M. (2003). *Research Methods in Education*. London: RoutledgeFalmer

- Cordingley, P., Bell, M., Evans, D. & Firth, A. (2005). The impact of collaborative CPD on classroom teaching and learning. Review: What do teacher impact data tell us about collaborative CPD? In: *Research Evidence in Education Library*. London: EPPI- centre, Social Science Research Unit, Institute of Education, University of London. Retrieved 14 June, 2009 from web site: <http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=139>
- CPD Certification Service (1999). *Continuing Professional Development: an overview*. Ealing Green: The Coach House
- CPD Week. (2006). CPD priorities: national and personal. Retrieved 17 December, 2008 from web site: <http://www.teachingexpertise.com/articles/cpd-priorities-national-and-personal-1517>
- Craft, A. (1996). Principles of Professional and Institutional Development. In *Continuing Professional Development: A practical guide for teachers and schools* (pp. 36-50). The Open University: London.
- Craft, A. (2000). *Continuing Professional Development: A Practical Guide for Teachers and Schools*. London and New York: The Open University.
- Creswell, W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks: Sage Publications
- Davies, R., & Preston, M. (2002). An Evaluation of the Impact of Continuing Professional Development on Personal and Professional Lives. *Journal of In-service Education*, 28, 231-254.
- Day, C., & Sachs, J. (2004). Professionalism, performativity and empowerment: discourses in the politics, policies and purposes of continuing professional development. In C. Day & J. Sachs (eds.), *International Handbook on the Continuing Professional Development of Teachers*. (pp.3-32). Berkshire: Open University Press.
- Day, C., Sammons, P., Stobart, G., Kington, A. & Gu, Q. (2007) Teachers matter: connecting work, lives and effectiveness. Retrieved 10 June, 2009 from web site: <http://books.google.co.uk/books?id=Juyp8W3MdbkC>
- Department for Education and Skills (2004). National Standards for Headteachers. Retrieved 20 May, 2009 from web site: <http://publications.teachernet.gov.uk/eOrderingDownload/NS4HFfinalpdf.pdf>
- Desimone, L., Porter, A. C., Birman, B. F., Garet, M. S. & Yoon, K. S. (2002). How do district management and implementation strategies relate to the quality of the professional development that districts provide to teachers? *Teachers College Record*, 104, 1265-1312.
- Driscoll, D., Yeboah, A., Salib, P., & Rupert, D. (2007). Merging Qualitative and Quantitative Data in Mixed Methods Research: How To and Why Not. *Ecological and Environmental Anthropology*, 3, 1, 19-28.

- Dudley LA CPD Policy. (2008). A Model CPD Policy for xxx School (Example). Retrieved 17 December, 2008 from web site: <http://www.edu.dudley.gov.uk/cpd>
- Education Survey and Research Centre (2000). *Improving the Economic Status of Teachers: A Case of Thailand*. Bangkok: ONEC
- Egan, D. & Simmonds, C. (2002). *The Continuing Professional Development of Teachers in Wales: International and Professional Contexts*. Retrieved 7 December, 2005 from web site: <http://www.gtcw.org.uk/documents/framework/Desk%20top%20study%20%20comparative%20professions%20and%20other%20countries%20CPD.pdf>
- Engineering Council UK. (2008). Retrieved 12 February, 2008 from web site: <http://www.engc.org.uk/>
- Entrance Information Center. (2005). *Entrance Statistics*. Retrieved 7 December, 2005 from web site: <http://www.entrance.co.th/>
- Eurydice (2003). *Key Topics in Education in Europe*. Brussels: Eurydice European Unit. Also available at <http://www.eurydice.org/portal/page/portal/Eurydice>
- Eurydice (2008). *Levels of autonomy and responsibilities of teachers in Europe*. Retrieved 18 September, 2008 from web site: <http://www.eurydice.org/portal/page/portal/Eurydice>
- Fieming, S., Shire, J., Jones, D., Pill, A., & McNamee, M. (2004). Continuing Professional Development suggestions for effective practice. *Journal of Further and Higher Education*, 28, 165-177
- Flecknoe, M. (2000). Can Continuing Professional Development for Teachers be Shown to Raise Pupils' Achievement? *Journal of In-service Education*, 26, 437-457.
- Frankel, R. & Devers, K. (2000). Study Design in Qualitative Research: Developing Questions and Assessing Resource Needs. *Education for Health*, 13, 2, 251-261.
- Fraser, C. (2005). Towards a unified model of professional development? School of Education: University of Aberdeen.
- French, H. & Dowds, J. (2008). An Overview of Continuing Professional Development in Physiotherapy. *Physiotherapy*, 94, pp. 190-197.
- Friedman, A., & Phillips, M. (2004) Continuing Professional Development: developing a vision. *Journal of Education and Work*, 17, 361-376.

- Friedman, A. & Woodhead, S. (2008). Approaches to CPD measurement. Professional Associations Research Network. Retrieved from 26 October, 2008 from web site: <http://www.ifac.org/education/Meeting-FileDL.php?FID=3653>
- Fry, G. (1999). *Teaching personnel strategy in Thailand: A review and recommendations*. Bangkok: UNESCO.
- General Medical Council. (2008). Retrieved 12 February, 2008 from web site: <http://www.gmc-uk.org/>
- General Teaching Council for England (2008). Retrieved 12 February, 2008 from web site: <http://www.gtce.org.uk/>
- General Teaching Council for England (2009a). Retrieved 14 June, 2009 from web site: http://www.gtce.org.uk/teachers/rft/prof_learn1205/prof_learn1205appraisal/
- Golafshani, N. (2003) Understanding Reliability and Validity in Qualitative Research. *The Qualitative Report*, 8, 4, pp. 597-607. Retrieved 3 June, 2009 from website: <http://www.nova.edu/ssss/QR/QR8-4/golafshani.pdf>
- Golledge, R., & Stimson, R. (1996) Spatial behavior: a geographic perspective. Retrieved 3 June, 2009 from website: <http://books.google.com/books?id=2JPMvpMbLrMC&hl=th>
- Good, J., & Weaver, A. (2003). Creating Learning Communities to Meet Teachers' needs in Professional Development. *Journal of In-service Education*, 29, 439-449.
- Goodall, J., Day, C., Lindsay, G., Muijs, D., & Harris, A. (2005). *Evaluating the Impact of Continuing Professional Development (CPD)*. Retrieved 7 December, 2005 from web site: <http://www.dfes.gov.uk/research/data/uploadfiles/RR659.pdf>
- Gorard, S. (2003) Understanding probabilities and re-considering traditional research training. *Sociological Research Online*, 8(1) Retrieved 18 September, 2008 from web site: <http://www.socresonline.org.uk/8/1/gorard.html>
- Gorard, S., Rushforth, K. & Taylor, C. (2004). Is there a shortage of quantitative work in education research? *Oxford Review of Education*, 30, 3, 371-395
- Gould, D., Berridge, E., & Kelly, D. (2007). The National Health Service Knowledge and Skills Framework and its implications for continuing professional development in nursing. *Nurse Education Today*, 27, 26-34
- Guskey, T. R. (2000). *Evaluating Professional development*. Thousand Oaks, London: Corwin Press.

- Guskey, T. R. (2000). Professional Development and Teacher Change. *Teachers and Teaching: theory and practice*, 8, 381-391.
- Hammond, L. (2000). *Teacher Quality and Student Achievement: A Review of State Policy Evidence*. Retrieved 17 December, 2008 from web site: <http://epaa.asu.edu/epaa/v8n1/>
- Health Professions Council. (2008). Retrieved 12 February, 2008 from web site: <http://www.hpc-uk.org/>
- Heaney, L. (2004). Leading professional development: a case study. *International Journal of Educational Management*, 18, 37-48.
- Hickok, E. (1998). Higher Standards for Teacher Training. *Policy Review*, 91, 1-8.
- Hoban, G., Erickson, G. (2004). Dimensions of Learning for Long-term Professional Development: comparing approaches from education, business and medical contexts. *Journal of In-service Education*, 30, 301-324.
- Hustler, D. (2003). *Teacher' perceptions of continuing professional development*. Retrieved 7 December, 2005 from web site: <http://www.dfes.gov.uk/research/data/uploadfiles/RR429.pdf>
- Hyde, J. S. (2005) The Gender Similarities Hypothesis. *American Psychologist*, 60, 6, pp. 581-592.
- Institute for Policy Studies in Education. (2006) GTC Survey 2006: Segmentation by Gender. Retrieved 27 May, 2009 from web site: www.gtce.org.uk/documents/publicationpdfs/research_survey06gen.pdf
- Irvine, E. (2006). Establishing criteria for effective professional development and use in evaluating an action research based programme. *Journal of In-service Education*, 32, 477-496
- James, D. (2000). *Perceptions of North Carolina Principals Of Their Professional Development Needs As Provided By Their School Systems*. Retrieved 7 December, 2005 from web site: <http://www.wcu.edu/graduate/GRS2006/documents/DonnaJames2.doc>
- Keay, J. (2006). Collaborative learning in physical education teachers' early-career professional development. *Physical Education and Sport Pedagogy*, 11, 285-305
- Kennedy, A. (2005). Models of Continuing Professional Development: a framework for analysis. *Journal of In-service Education*, 31, 235-250.
- Knight, P. (2002). A systemic approach to professional development: learning as practice. *Teaching and Teacher Education*, 18, 229-241.

- Law Society. (2008). Retrieved 12 February, 2008 from web site:
<http://www.lawsociety.org.uk/home.law>
- Li, B., Chan, S. (2007). Coaching as a means for enhancing English-language teachers' professional development: a case study. *Journal of In-service Education*, 3, 341-358.
- Lindsay, G. (2008). Personal communication.
- Lindsay, G. (2009) Personal communication.
- Lindsay, G., Muijs, D., Harris, A., Chapman, C., Arweck, E., & Goodall, J. (2007) *School federations pilot: Study 2003-2007. DCSF-RR015*. Nottingham: DCSF. 111pp. Retrieved 11 June, 2009 from web site:
<http://www.dcsf.gov.uk/research/data/uploadfiles/DCSF-RR015v2.pdf>
- Ling, L.M, & MacKenzie, N. (2001). The professional development of teachers in Australia. *European Journal of Teacher Education*, 24, 87-98.
- Loveder, P. (2005). World Trends in Staff Development: Implications on the Performance of Technical Education Institutions. Retrieved 17 December, 2008 from web site: http://www.ncver.edu.au/pubs/confs/TVET_Aug05.pdf
- Lund, T. (2005). The Qualitative-Quantitative Distinction: Some comments. *Scandinavian Journal of Education Research*, 49, 2, 115-132.
- McCaughy, N., Martin, J., Kulinna, P. & Cothran, D. (2006). What Makes Teacher Professional Development Work? The Influence of Instructional Resources on Change in Physical Education. *Journal of In-service Education*, 32, 2, pp.221-235.
- McNabb, D. (2004) Research methods for political science: quantitative and qualitative methods. Retrieved 3 June, 2009 from website:
<http://books.google.com/books?id=W9YTkWKnm9MC&hl=th>
- Ministry of Education (1996). *Research on the Efficiency of Teacher Utilization* Bangkok: ONEC
- Ministry of Education (2005). Education Statistics. Retrieved 7 December, 2005 from web site: http://www.moe.go.th/data_stat/
- Ministry Operation Center (2003) retrieved 7 December, 2005 from web site:
http://www.moc.moe.go.th/filedata/n1_46.htm
- Muijs, D & Lindsay, G. (2008). Where are we at? An empirical study of levels and methods of evaluating continuing professional development. *British Educational Research Journal*, 34, 2, pp. 195-211
- National College for School Leadership (2008) Annual Report and Accounts. Retrieved 15 May, 2009 from web site: <http://www.ncsl.org.uk/ncsl-accounts-07-08.pdf>

- National College for School Leadership. (2009) Retrieved 15 May, 2009 from web site: <http://www.ncsl.org.uk/>
- National Education Association. (2003). Teachers Better Trained, More Educated Than Ever. *Education USA*, 45, 5.
- National Identity Office (1995). Thailand in the 90s. Bangkok: Amarin Printing and Publishing Public Company Limited.
- National Staff Development Council (2008). *National Staff Development Council's Standards for Staff Development*. Retrieved 3 November, 2008 from web site: <http://www.nsd.org>
- NCSL Booklet. (2009) Making a Difference: A summary. Retrieved 15 May, 2009 from web site: <http://www.ncsl.org.uk/making-a-difference-a-summary-2.pdf>
- NCSL Middle Leaders Project. (2006) A review of the evidence from Ofsted. Retrieved 15 May, 2009 from web site: <http://forms.ncsl.org.uk/mediastore/image2/pml/pml-ofsted-evidence-review.pdf>
- Niaz, M. (2004). Exploring Alternative Approaches to Methodology in Educational Research. *Interchange*, 35, 2, 155-184.
- Nursing and Midwifery Council. (2008). Retrieved 12 February, 2008 from web site: <http://www.nmc-uk.org/>
- Office of Chiang Mai Educational Service Area (2005). *Numbers of schools in the province*. Chiang Mai: Thailand
- Office of Her Majesty's Chief Inspector of Schools (2002). Continuing Professional Development for Teachers in Schools: Inspected September 2000 to April 2001. Retrieved 14 June, 2009 from web site: http://www.villierspark.org.uk/web_images/pdfs/Ofsted%20CPD.pdf
- Office of the Education Council. (2004). *Education in Thailand*. Bangkok: Kingdom of Thailand
- Office of the National Education Commission (2003). *Education in Thailand 2002/2003*. Bangkok: ONEC Publication
- Oldroyd, D. & Hall, V. (1991) Identifying needs and priorities in professional development. In Kydd, L., Crawford, M. & Riches, C. (Ed.), *Professional Development for Educational Management* (pp.131-147). Open University Press: Buckingham.
- Patton, M. (1987). How to use Qualitative Methods in Evaluation. London: Sage Publications.

- Pitiyanuwat, S. (2000). *Policy Recommendations on Production and Development of Teachers*. Bangkok: ONEC
- Pritchard, R., & Marshall, J. (2002) Professional Development in Healthy vs. Unhealthy Districts: top 10 characteristics based on research. *School Leadership & Management*, 22, 113-141.
- Purdon, A. (2004). Perceptions of the educational elite on the purpose of a national framework of Continuing Professional Development (CPD) for teachers in Scotland. *Journal of Education for Teaching*, 30, 131-149.
- Rhodes, C., & Beneicke, S. (2002). Coaching, Mentoring and Peer-networking: challenges for the management of teacher professional development in schools. *Journal of In-Service Education*, 28, 297-310
- Rice, D. (2005). I didn't know oxygen could boil! What preservice and inservice elementary teachers' answers to 'simple' science questions reveals about their subject matter knowledge. *International Journal of Science Education*, 27, 1059-1082.
- Richardson, W. (2002). Educational Studies in the United Kingdom. *British Journal of Educational Studies*, 50, 1, 3-56.
- Robinson, M., Walker, M., Kinder, K. & Haines, B. (2008). Research into the role of CPD leadership in schools. Retrieved 20 May, 2009 from web site: http://www.tda.gov.uk/upload/resources/pdf/n/nfer_cpd_leadership_a.pdf
- Sammons, P., Daya, C., Kingtona, A., Gua, Q., Stobartb, G., & Smeesb, R. (2007). Exploring variations in teachers' work, lives and their effects on pupils: key findings and implications from a longitudinal mixed method study. *British Educational Research Journal*, 33, 5, 681-701.
- Scholastic Assistance for Global Education (2008). Retrieved 3 November, 2008 from web site: <http://sage.tamu.edu/country/asia/Thailand.htm>
- Shaha, S., Lewis, V., Donnell, T. & Brown, D. (2004). Evaluating Professional Development: An approach to verifying program impact on teachers and students. The National Staff Development Council. Retrieved 7 December, 2005 from web site: <http://www.nsd.c.org/library/publications/research/shaha.pdf>
- Shepardson, D., Harbor, J. (2004). ENVISION: the effectiveness of a dual level professional development model for changing teacher practice. *Environmental Education research*, 10, 471-492.
- Sim, J., & Wright, C. (2000) Research in health care: concepts, designs and methods. Retrieved 3 June, 2009 from website: <http://books.google.com/books?id=vwjhgtUoNZIC&hl=th>

- Southeast Asian Ministers of Education Organization (2003). Retrieved 7, December, 2003 from web site: http://www.seameo-innotech.org/resources/seameo_country/educ_data/thailand/thailand15.htm
- Sturman, L., Lewis, K., Morrison, J., Scott, E., Smith, P., Styles, B., Taggart, G. & Woodthorpe, A. (2005). General Teaching Council Survey of teachers 2005. London: GTCE. Retrieved 14 June, 2009 from web site: <http://www.gtce.org.uk/documents/publicationpdfs/teachersurvey05.pdf>
- Sydow, D. (2000). Long-term investment in professional development: real dividends in teaching and learning. *Community College Journal of Research and Practice*, 24, 383-395.
- Taitelbaum, D., Mamlok-Naaman, R., Carmeli, M., & Hofstein, A. (2008). Evidence for Teachers' Change While Participating in a Continuous Professional Development Programme and Implementing the Inquiry Approach in the Chemistry Laboratory. *International Journal of Science Education*, 30, 593-616
- Tashakkori, A. & Teddlie, C. (2003). Handbook of mixed methods in social and behavioral research. Thousand Oaks: Sage Publications.
- Terrell, I., Powell, E., Furey, S. & Scott-Evans, A. (2003). Teacher's Perceptions of the Impact of CPD: an institutional case study. *Journal of In-service Education*, 29, 3, pp. 389-404.
- Thailand Education Reform Project. (2002). *Teacher Development for Quality Learning*. Bangkok: Office of Commercial Services
- Tourism Authority of Thailand. (2008). Retrieved 3 November, 2008 from web site: <http://chiangmai.sawadee.com/history.htm>
- Training and Development Agency for Schools (2005). Retrieved 7 December, 2005 from web site: <http://www.tda.gov.uk/>
- Trochim, W. (2006). Research Methods Knowledge Base. *Web Center for Social Research Methods*. Retrieved 17 December, 2008 from web site: <http://www.socialresearchmethods.net/kb/qualdeb.htm>
- Vandenberghe, R. (2002). Teachers; professional development as the core of school improvement. *International Journal of Educational Research*, 37.
- Wallace, C. (1996). Promoting Professional Development. In R. C. Wallace (Ed.), *From vision to practice: the art of educational leadership* (pp. 161-179). California: Corwin Press.
- Walliman, N. (2005). *Your Research Project*. Thousand Oaks: Sage Publications

- Weiser, E. (2000) Gender Differences in Internet Use Patterns and Internet Application Preferences: A Two-Sample Comparison. *CyberPsychology & Behavior*, 3, 2, pp. 167-178.
- Williams, C. (2007). Mixed-Method Evaluation of Continuing Professional Development: Applications in Cultural Competence Training. *Social Work Education*, 26, 121-135
- Williams, M., Kite, S., Hicks, F., Todd, J., Ward, J., & Barnett, M. (2006). Continuing Professional Development (CPD) in palliative medicine: a survey. *Medical Teacher*, 28, 171-174.
- Yanos, P. & Hopper, K. (2008). On “False, Collusive Objectification”: Becoming Attuned to Self-Censorship, Performance and Interviewer Biases in Qualitative Interviewing. *Social Research Methodology*, 11, 3, 229-237.

Appendix A: Teacher Survey Questions Continuing Professional Development (CPD) Evaluation

Direction: Please complete and return this survey in a sealed envelope to your school headteacher or the person who gave it out to you

Section1: Your views on CPD, the programs, and its effectiveness

1. Which of the following types or methods of CPD have you experienced either within or outside of your organization in last year?

	Often	Sometimes	Rarely	Never
Single workshop / Short courses				
Workshop series / Long courses				
Conferences / Lectures				
College coursework				
Peer coaching / Observation				
Mentoring / Critical friendships				
Study groups / Group activities				
Work-shadowing				
Collaborative learning				
Networks				
Teleconference / Video				
Action research				
Self-directed study				
Other (please specify)				

2. Which of the following areas of training have been covered over the last year?

	Often	Sometimes	Rarely	Never
Content knowledge of a specific subject area				
Teaching techniques, strategies, or methods				
Curriculum planning				
Technology				
Classroom management and disciplines				
Communication skills				
Other (please specify)				

3. Which of the following organizations have provided a training programme or activity to a staff in your school to attend?

	Often	Sometimes	Rarely	Never	Not sure
My school					
Other schools					
Education Service Area					
Private agencies					
College / University					
Other (please specify)					

4. From the following statements, please rate how would you acquire new knowledge and skill

	Strongly agree	Agree	Unsure	Dis-agree	Strongly disagree
Skills are covered during induction to the job					
Skills are acquired by participating in the training programs / activities					
Self-study such as reading books or using library					
I use my own time, outside my current work commitments, for my professional development					
Picked up the skills from colleagues or another member of staff in the department					
Already had the skills and have developed these skills further					
Other (please specify)					

5. From the following statements, please rate how would you use new knowledge and skills you have acquired by participating in CPD activity.

	Strongly agree	Agree	Unsure	Disagree	Strongly disagree
I have gained new knowledge and skills but I am not using them					
I am attempting to use new knowledge and skills but I am not yet comfortable in using them					
I routinely use the new knowledge and skills					
I modify what I have learned to fit into the classroom					
I coordinate use with colleagues to gain greater impact					
I re-evaluate quality of use of my skills and modify to increase impact					
Other (please specify)					

6. From the following statements, please rate your satisfaction of the time, money, and other resources available for staff members to participate in CPD activity.

	Strongly agree	Agree	Unsure	Dis-agree	Strongly disagree
My school provide sufficient time for teachers to work on their CPD					
My school provide sufficient financial resources for teachers to participate in CPD activities					
My school provide sufficient resources for teachers to participate in CPD activities					

7. Please rate the effectiveness of the following forms of CPD in enhancing your professional knowledge, skills and practice.

	Highly effective	Somewhat effective	Somewhat ineffective	In-effective	Never participated this type of activity
Single workshop / Short courses					
Workshop series / Long courses					
Conferences / Lectures					
College coursework					
Peer coaching / Observation					
Mentoring / Critical friendships					
Study groups / Group activities					
Work-shadowing					
Collaborative learning					
Networks					
Teleconference / Video					
Action research					
Self-directed study					
Other (please specify)					

8. Please rate the outcomes gained as a result of your participating in CPD activities.

	Changed significantly	Somewhat changed	Not changed
Positive changes in my attitudes / views			
Positive changes in my teaching practice			
Knowledge / skills improvement			
Organizational changes / overall school improvement			
Increased collaboration with colleagues			
Improved performance or behaviors of the students			
Increased learning outcomes of the students			
Other (please specify)			

Section 2: General Information. Please circle or fill in the blank

1. Gender: Male Female
2. School type: Elementary Middle High Vocational Special
3. What is the main subject you teach?
.....
4. How long have you been in your present position?
Less than 1 year 2-5 years 6-10 years 11-15 years 16-20 years more
than 20 years
5. Age group: 20-30 31-40 41-50 51-60 60 or more

Section 3: Additional Information. Please circle or fill in the blank

1. What was most commonly the length of in-service activities you have been involved in this year?
Half day One day Two days One week Other (please specify):
2. What is the total time you have been involved in CPD activities over the last year?
Less than 1 day 1-2 days 3-5 days 6-8 days more than 9 days
3. When did you undertake most of your in-service training this year?
During school hours After school On weekend On summer
During other school holidays Other (please specify):
4. What do you think should be done to increase the opportunities for CPD?
.....
.....
.....
.....
5. Are there any other comments you wish to make about CPD?
.....
.....
.....
.....

Thank you

Appendix B: Headteacher Interview Questions

1) What is your view of CPD?

- What are the reasons for undertaking it?

2) What are your roles and responsibilities for CPD?

- How do you encourage your staff to develop?
- How do you decide who to participate in CPD programs, the type of the programs, the content of programs, and the scheduling of the programs?
- Does anyone else in your school have the opportunities in determining or implementing CPD activities? What is their position and responsibilities?
- Do you have some staff who do not participate in the training programs? How do you increase their enthusiasm?

3) What types of training or opportunity have been provided within the past five years?

- What types of activities have been provided within your school? What types of activities have been provided outside of the school?
- What topics or areas have been addressed?
- How the training was conducted? Were activities collaborative? Did teachers learn in teams or study groups?
- Which ones do you feel have been most effective? Which ones have been ineffective? Why?
- In what CPD experiences are teachers currently involved? Do you focus on training for specific skills or do you use a broader concept of development?
- In what CPD opportunities are teachers interested?

- 4) What is the availability of resources to support CPD activities?
- Time
 - Money
 - Other resources
- 5) How do you manage the time CPD activities?
- How much time over the past five years was spent on CPD? How frequent was the CPD activities? Were there monthly activities? Or activities once or two times a year?
 - Approximately, what is the average time that a teacher has been involved in CPD activities within a year?
 - Of what duration was each opportunity you undertook or created? What kinds of continuity were there between the different experiences?
 - When did teachers undertake most of their in-service training? (during school hours, after school, in school holidays)
- 6) How do you evaluate the CPD that you put on in your school?
- What do you evaluate?
 - teacher satisfaction
 - teacher learning
 - teaching practices
 - organizational outcomes
 - student outcomes (learning & behaviors)
 - value for money
 - What methods do you use to evaluate CPD programs or activities?
 - questionnaires
 - interviews
 - observations
 - What impact has CPD had on your school, teachers, and students?
- 7) Are there any additional comments you would like say?

Appendix C: Teacher Interview Questions

1) What is your view of CPD?

- How do you involve yourself in CPD?
- What are the reasons why you participate in CPD activity?
- What do you hope to achieve by attending CPD events?

2) What is team-learning?

- How does the culture within your school support your ongoing learning and professional development growth?
- In what ways are you involved in team-learning?
- What are the advantages of learning with, and from, your colleagues?

3) What was the format for the CPD activity you have experienced within the past five years?

- What types of CPD have you participated within your school? What types of CPD have you participated outside of the school?
- What topics or areas have been addressed? What was the topic that you and most teachers were interested in?
- Which ones do you feel have been most effective? Which ones have been ineffective? Why?

4) What is the availability of resources to support CPD activities?

- Time
- Money
- Other resources

5) What is the impact or expected outcomes as a result of CPD?

- How is CPD linked to your own performance?
- How is CPD linked to overall school improvement?

- How is CPD linked to student learning?
- 6) What suggestions do you have for the improvement of CPD in your school?
- What CPD opportunities would you like to see offered in your school?
 - How should the school improve the quality and delivery of CPD?
- 7) Are there any additional comments you would like to say?

Appendix D: Cover Letter



The University of Warwick
Coventry CV4 7AL United Kingdom
Tel: +44 (0) 24 7652 3638
Fax: +44 (0) 24 7652 4472



Centre for Educational Development
Appraisal and Research
Email: geoff.lindsay@warwick.ac.uk

Date: 6 August, 2007

Subject: Teacher surveys on the effectiveness of CPD

To: School principal or whom it may concern

I am a doctoral student conducting research under the supervision of Professor Geoff Lindsay at the University of Warwick. My research focuses on Continuing Professional development for Teachers in Thailand. The purpose of this research is to explore the types and forms of CPD that teachers experience in Thailand. I hope the findings of this study will deepen the knowledge whether certain kinds of CPD hold more promise for helping teachers to improve their teaching practices, and for students to improve their academic performance.

In so doing, I would like to request your assistance to hand in the enclosed surveys and envelopes to any 2-3 teachers who have participated in any types of CPD programs and/or activities. I would like teachers who have been teaching for different lengths of time and teach different subjects if possible so that my sample covers a wide range of teachers. After the surveys have been completed, please return them to Nuttiya Tantranont in the postage-paid envelope provided. If you have any questions, please contact me during regular business hours at (084) 9507533 or via email at N.Tantranont@warwick.ac.uk

Thank you for your time. I really appreciate the feedback.

(Nuttiya Tantranont)
Research student

A handwritten signature in black ink that reads 'Geoff Lindsay'.

(Professor Geoff Lindsay)
Supervisor/ Director (CEDAR)

Appendix E: A comparison of the types of CPD participated by male and female teachers (%)

(n=1201)	Often		Sometimes		Rarely		Never	
	male	female	male	female	male	female	male	female
Single workshop / Short Course	41.9	39.9	43.4	40.0	14.1	18.8	0.6	1.4
Workshop series / Long courses	16.2	23.0	49.8	46.4	29.4	27.4	4.6	3.2
Conferences / Lectures	79.4	72.6	16.9	22.1	3.4	4.6	0.3	0.7
College coursework	2.8	5.3	28.1	23.6	35.2	28.9	33.9	42.3
Peer coaching / Observation	30.0	27.5	43.1	43.2	20.2	22.3	6.7	7.0
Mentoring / Critical friendships	43.4	47.3	45.3	40.1	9.8	11.9	1.5	0.7
Study groups / Group activities	63.9	68.6	27.8	25.9	8.0	5.3	0.3	0.2
Work-shadowing	31.5	43.2	56.9	44.2	10.1	11.2	1.5	1.4
Collaborative learning	39.3	47.8	47.2	41.0	12.6	10.2	0.9	1.0
Networks	13.5	22.0	57.1	49.6	25.8	24.7	3.7	3.7
Teleconference / Video	34.7	38.6	44.2	41.7	18.7	17.2	2.5	2.5
Action research	7.3	17.6	48.3	47.7	33.6	29.4	10.7	5.3
Self-directed study	70.6	73.5	25.7	23.1	3.1	3.1	0.6	0.2
Other	42.9	42.1	42.9	42.1	14.3	15.8	0.0	0.0

Appendix F: A comparison of the content of CPD participated by male and female teachers (%)

(N=1201)	Often		Sometimes		Rarely		Never	
	male	female	male	female	male	female	male	female
Content knowledge of a specific subject area	38.8	50.1	52.6	38.1	7.3	10.4	1.2	1.4
Teaching techniques, strategies, or methods	28.1	39.3	60.2	45.8	10.1	13.9	1.5	1.0
Curriculum planning	24.2	31.5	54.4	49.7	20.8	17.6	0.6	1.1
Technology	22.1	25.4	54.6	51.9	20.9	19.8	2.5	2.9
Classroom management and disciplines	26.7	31.2	42.3	40.2	27.6	21.6	3.4	7.0
Communication skills	19.9	23.1	46.8	46.4	27.5	23.1	5.8	7.5
Other	50	42.1	50	47.4	0.0	10.5	0.0	0.0

Appendix G: A comparison of the providers of CPD between male and female teachers (%)

(N=1201)	Often		Sometimes		Rarely		Never		Not sure	
	male	female	male	female	male	female	male	female	male	female
My school	42.8	38.6	40.7	38.0	13.5	18.3	2.8	4.7	0.3	0.3
Other Schools	1.2	3.0	36.7	34.5	46.2	41.6	13.5	20.2	2.4	0.7
LEA	38.5	44.2	47.1	38.4	13.5	15.6	0.6	1.4	0.3	0.5
Private agencies	3.1	8.0	29.7	31.8	44.3	36.8	20.5	20.5	2.4	2.9
College/University	3.4	4.6	23.9	27.8	43.3	40.1	25.2	24.3	4.3	3.2
Other	36.4	36.8	36.4	36.8	27.3	26.3	0.0	0.0	0.0	0.0

Appendix H: A comparison of the resources available for CPD between male and female teachers (%)

(N=1201)	Strongly agree		Agree		Unsure		Disagree		Strongly disagree	
	male	female	male	female	male	female	male	female	male	female
Sufficient time	25.1	22.9	57.5	61.2	13.8	11.5	3.4	4.0	0.3	0.3
Sufficient financial resources	19.0	18.3	53.8	54.4	20.2	17.1	5.8	8.9	1.2	1.3
Sufficient resources	18.7	17.7	59.9	59.2	13.8	15.9	6.1	6.7	1.5	0.6

Appendix I: A comparison of the ways in which male and female teachers acquire skills and knowledge (%)

(N=1201)	Strongly agree		Agree		Unsure		Disagree		Strongly disagree	
	M	F	M	F	M	F	M	F	M	F
Skills are covered during induction to the job	40.7	45.5	56.6	52.1	1.8	1.8	0.6	0.6	0.3	0.0
Skills are acquired by participating in the training programs / activities	43.1	45.4	52.6	51.9	3.7	2.5	0.3	0.1	0.3	0.0
Self-study such as reading books or using library	34.3	40.0	59.9	57.0	5.2	2.9	0.3	0.1	0.3	0.0
I use my own time, outside my current work commitments, for my professional development	19.0	21.8	69.1	66.2	10.1	10.1	1.5	1.6	0.3	0.2
Picked up the skills from colleagues or another member of staff in the department	22.4	25.1	70.0	68.8	7.1	5.7	0.0	0.3	0.3	0.0
Already had the skills and have developed these skills further	25.7	29.7	61.2	59.6	11.6	8.9	1.2	1.7	0.3	0.0
Other	0.9	0.6	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0

Appendix J: A comparison of the new knowledge and skills used by male and female teachers (%)

(N=1201)	Strongly agree		Agree		Unsure		Disagree		Strongly disagree	
	M	F	M	F	M	F	M	F	M	F
I have gained new knowledge and skills but I am not using them	8.6	7.2	22.3	15.4	9.8	7.0	45.0	50.5	14.1	20.0
I am attempting to use new knowledge and skills but I am not yet comfortable in using them	8.9	7.9	32.4	29.2	17.7	14.7	35.5	38.3	5.5	9.9
I routinely use the new knowledge and skills	34.0	37.0	59.8	60.3	5.5	2.1	0.6	0.5	0.0	0.1
I modify what I have learned to fit into the classroom	33.7	37.5	58.9	59.2	7.1	3.0	0.3	0.1	0.0	0.1
I coordinate use with colleagues to gain greater impact	26.0	27.1	65.7	67.2	8.9	5.2	0.0	0.6	0.0	0.0
I re-evaluate quality of use of my skills and modify to increase impact	28.4	30.0	60.6	62.2	10.4	7.1	0.6	0.6	0.0	0.1
Other	50.0	83.3	50.0	16.7	0.0	0.0	0.0	0.0	0.0	0.0

Appendix K: A comparison of the effectiveness of CPD reported by male and female teachers (%)

(N=1201)	Highly effective		Somewhat effective		Somewhat ineffective		Ineffective		Never participated in this type of activity	
	M	F	M	F	M	F	M	F	M	F
Single workshop / Short courses	24.8	24.6	55.0	48.1	16.5	22.8	2.4	3.2	1.2	1.0
Workshop series / Long courses	66.4	73.3	30.3	23.1	2.8	2.5	0.3	0.3	0.3	0.6
Conferences / Lectures	41.6	45.0	44.0	43.4	13.5	9.9	0.6	1.4	0.3	0.2
College coursework	30.9	38.4	40.4	37.6	16.5	8.7	2.8	1.6	9.5	13.6
Peer coaching / Observation	30.3	33.1	56.3	54.8	11.9	8.7	1.5	1.7	0.0	1.6
Mentoring / Critical friendships	42.2	44.6	49.6	47.1	7.3	7.0	0.9	0.7	0.3	0.3
Study groups / Group activities	53.8	62.3	38.8	33.7	6.7	2.9	0.6	0.5	0.0	0.3
Work-shadowing	48.0	58.2	43.1	36.3	7.6	4.2	1.2	0.5	0.0	0.7
Collaborative learning	59.0	68.2	34.6	27.7	5.2	3.0	0.6	0.5	0.3	0.2
Networks	30.6	38.4	55.0	50.6	11.0	7.8	3.1	1.0	0.3	1.8
Teleconference / Video	42.5	54.3	49.8	39.7	6.7	3.9	0.6	0.8	0.3	1.0
Action research	50.5	63.2	38.2	29.1	5.8	4.5	2.8	0.7	2.8	2.4
Self-directed study	62.1	72.9	34.3	25.0	2.1	1.8	1.5	0.1	0.0	0.1
Other	1.2	0.9	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0

Appendix L: A comparison of the outcomes gained as a result of CPD activities reported by male and female teachers (%)

(N=1201)	Changed Significantly		Somewhat changed		Not changed	
	male	female	male	female	male	female
Positive changes in my attitudes / views	87.2	88.2	12.5	11.0	0.3	0.8
Positive changes in my teaching practice	91.1	94.4	8.9	5.5	0.0	0.1
Knowledge / skills improvement	90.2	94.2	9.8	5.8	0.0	0.0
Organizational changes / overall school improvement	83.7	89.7	15.0	10.2	1.2	0.1
Increased collaboration with colleagues	79.2	84.4	19.9	15.0	0.9	0.6
Improved performance or behaviors of the students	75.8	76.5	21.4	21.3	2.8	2.2
Increased learning outcomes of the students	84.4	91.1	15.0	8.8	0.6	0.1
Other	100	100	0.0	0.0	0.0	0.0