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SCHOOL IMPROVEMENT THROUGH SYSTEMATIC FEEDBACK OF PUPIL LEVEL DATA AT THE SCHOOL AND CLASSROOM LEVEL

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Introduction

Although it might be true that school effectiveness research has become a major tradition in educational research it has been stated moreoften that these studies suffer from serious theoretical and methodological flaws. Summarizing these criticisms one can say that most of the research sofar can be characterized as a fishing expedition with large drawing nets in which the explanatory variables are sometimes caught and sometimes not. The major criticism is that no explicit causal theoretical model has been suggested in which all of the explanatory variables can be ordered in a theoretically and empirically logical way. The methodology has been inductive and emperistic to a large extent. Due to the correlational approach of most studies no causal interpretations could be made. This line of research however has made it possible to formulate more specific hypotheses that can be put to an empirical test. For this reason it is suggested that the school effectiveness research should follow a deductive line of inquiry in which some of the formulated hypotheses can be studied in depth by making use of more sophisticated designs.

Taking these criticisms seriously an experiment was started in which some of the promising effective school characteristics are implemented in the school organization, by means of a training program. The implementation process is geared at two distinctive levels within the school; the level of the school principal and the level of the teacher.

Evaluative potential and feedback.

It has been stated moreoften that one of the most promising factors for improving the effectiveness of a school is the 'evaluative potential' of the schoolorganization. Using the outcomes of evaluative procedures at different levels in the school organization can be regarded as the steering mechanism for enhancing the quality of the educational process and the educational outcomes. Evaluative procedures can be used in several ways with different goals in mind. In our view the evaluative procedures should direct itself primarily towards the educational outcomes i.e. the learning of students.

Knowledge about the strong and weak points in the quality of the learning outcomes is a very powerful tool for specific schools in determining there schoolgoals and where they should direct their resources at.

A necessary condition for this however is that schools need to be equiped with an evaluative instrument that makes it possible to detect their strong and weak points as compared to their internally stated goals (internal quality), but also as compared to their relative position to other schools (external quality). With regard to the

determining of the external quality the evaluative instrument needs to be constructed is such a way that a 'fair' comparison between schools is made possible. A fair comparison between schools is made possible if there is a control for the influence of the background characteristics of their student population in terms of socio-economic status, ethnicity and prior ability, on the learning outcomes. This concept of 'value added quality' of schools is the baseline and starting point of the experiment that is aimed at improving the quality of schools, i.e. enhancing tho effectiveness of the school.
Knowledge about one's quality however is only the starting point for the school improvement process. it provides the school with an incentive and gives guidelines as to where the school needs improving but doesn't say how to do it.
Notwithstanding the fact that the learning process primarily takes place at the classroom level the school improvement process can be geared at two levels within the school; the administrative level (i.e. the principal) or the instructional level (i.e. the classroom teacher). This experiment is aimed at these two distinct levels separately. For both levels a different training program is developed.

Principal training
At the school level the central role of the principal as an educational manager and internal staff developer is stressed. In the training program the principal is fed with the outcomes of the evaluative procedure that gives him insight into the relative position of the school at large, the different teachers and the individual students. The principal is taught how to interpret the quality indicators and how to give feedback to the individual teachers with the aim of improving their instructional procedures. In this sense the principal is an intermediary factor in the school improvement process.
The training program for the principals consists of four separate days spread over two school years and are planned in such a way that in every session the principal has insight into the actual outcomes of their students at that moment.

Teacher training
The teacher training courses for mathematics teachers have two main goals: a. teaching the teachers to structure learning tasks and b. teaching the teachers to provide meaningful feedback. The teacher training programme fits the framework of a new mathematics curriculum (basic education for secondary education) with new educational objectives and instructional demands. The organization of the teacher training course, which aims at effective instruction, is based on five important instructional features:

- monitoring and revision of subject matter of previous lessons as an introduction to new subject matter, by means of "organizers";
- gradual presentation of new subject matter, while taking frequent problems into account;
- supervision of pupils during practice;
- providing feedback and corrections;
- assessment of achievements for each subject matter unit.

During the first year of the teacher training course (1991-1992) attempts are made to alter or improve three skills of the teachers:

- structuring learning tasks;

- providing pupils with systematic and meaningful feedback;
- acquiring a teaching model (or variant models) which encourages the active learning time of pupils.

Management and content of the teacher training meetings serve as a model for mathematics teaching that is more effective. In itself this is not an aim, however, it is a prior condition with respect to planning and realisation.
Classroom consultation takes place each time two training sessions have been completed by the participant in the training programme, in support of the training sessions and for the advancement of reflection upon personal educational practice. For that purpose a lesson of the first secondary school year is visited by a classroom consultant and discussed afterwards from the perspective of the previous training sessions. Hence, feedback is provided to the participants.

The experiment
The improvement program described above can also be seen as an experiment between two lines of theory within the effectiveness model i.e. school effectiveness as compared to teacher effectiveness. The aim of the experiment therefore is not only to determine the effectiveness of the programs at the school and teacher level as compared to a control group of schools but also whether it is more effective (and cost efficient) to direct the improvement process at the principal or the teacher.
The program is directed at improving the student learning in mathematics at schools for Lower General Secondary Education (MAVO). The students in the experimental groups are tested five times over a two year period in their mathematics proficiency. The students in the control group of schools are tested twice (pre test at the start of schoolyear 1 and a post test in schoolyear 3). These test scores for the experimental groups are used primarily for providing data feedback to the principals and mathematic teachers who participate in the training program. These data will also be used in evaluating the effects of both improvement programs as compared to the scores in the control group.

SCHOOL IMPROVEMENT: THE AGENDA FOR THE 1990'S

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In the 1980s School Improvement has been put on the agenda by the OECD (Organisation for Economic Cooperation and Development) by means of the International School Improvement Project (ISIP). This project produced a series of 14 books and technical reports of which "Making School Improvement Work" (1985) gives the conceptual framework that was used in the other publications. Six years after ISIP came to an end the world is dramatically changed and it is interesting to see whether the basic message of the book and the project is still applicable to the new circumstances.
In the 1990s educational budgets are indeed as tight as foreseen in the decade before, which explains the great interest of policy makers in the possibilities of the effective school. As political favoured change is not likely to happen without any