

PROMOTING STUDENT LEARNING OUTCOMES IN SOCIALLY DISADVANTAGED SCHOOLS: THE IMPACT OF THE DYNAMIC APPROACH TO SCHOOL IMPROVEMENT

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INTRODUCTION

- Early effectiveness studies show that teachers and schools can have an effect on student learning outcomes (Brookover, Beady, Flood, Schweitzer, & Wisenbaker, 1979; Rutter, Maughan, Mortimore, Ouston, & Smith, 1979).
- These studies were also concerned with identifying ways to help schools in **disadvantaged areas** to achieve learning outcomes.
- Educational Effectiveness Research (EER) gradually moved to giving more emphasis on the quality dimension with the argument that by promoting quality, equity may also be achieved.

INTRODUCTION

- During the last two decades an emphasis to investigating **differential** teacher and school effectiveness was given (Strand, 2010), but this was mainly done in order to examine the generic nature of effectiveness factors rather than to identify factors associated with equity (Kyriakides, 2007; Kelly, 2012).
- EER should develop a theoretical framework and appropriate school improvement approaches to promote not only **quality** but also **equity** (Muijs, Harris, Chapman, Stoll, & Russ, 2004).
- The study presented here investigates the extent to which the ***Dynamic Approach to School Improvement (DASI)*** can promote student learning outcomes in disadvantaged schools.

ESTABLISHING A DYNAMIC APPROACH TO SCHOOL IMPROVEMENT

A) Main features

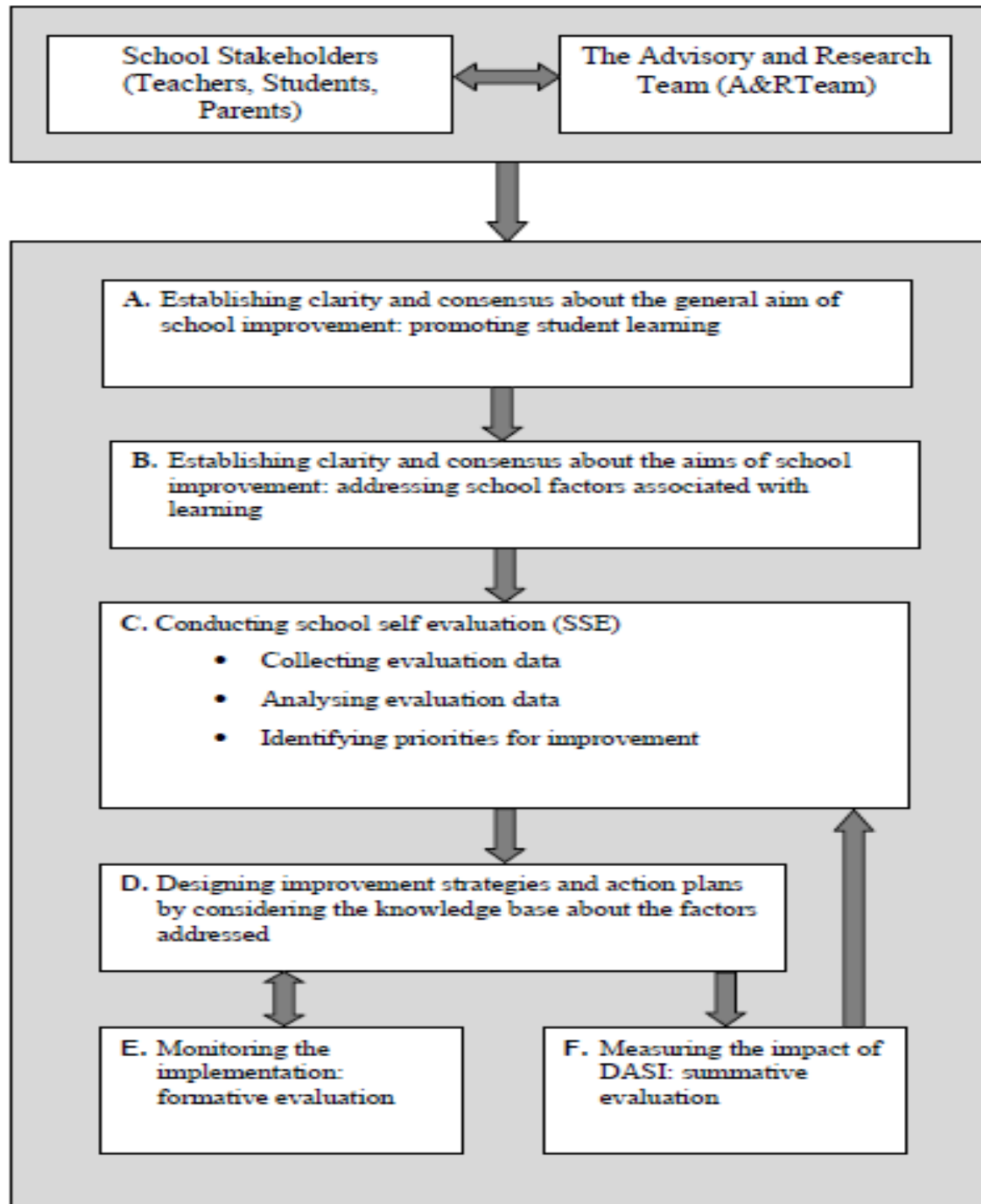
- The DASI has its own theoretical framework (i.e., *the dynamic model*) which refers to school factors that need to be considered in introducing a change.
- A framework to measure the functioning of school factors in relation to quantitative and qualitative characteristics is proposed.
 - The importance of treating *differentiation* as a separate dimension of measuring effectiveness factors is stressed.
- Adaptation to the specific needs of each subject or group of subjects increases the successful implementation of a factor and ultimately maximizes its effect on student learning outcomes.

ESTABLISHING A DYNAMIC APPROACH TO SCHOOL IMPROVEMENT

A) Main features

- DASI emphasizes the role of *school evaluation* in improving the effectiveness status of the school.
- The *Advisory and Research Team (A&RTeam)* is expected to share its expertise and knowledge with practitioners and help them identify their improvement areas and develop strategies and action plans that are in line with the knowledge-base of EER.
- **School stakeholders** are those who take decisions on which improvement actions and tasks should be carried out.
- The role of *formative evaluation* is stressed. Data of formative evaluation may help schools continuously adapt their action plans to the skills and needs of students, teachers, parents and other school stakeholders.

Figure 1. The major steps of the Dynamic Approach to School Improvement (DASI)



ESTABLISHING A DYNAMIC APPROACH TO SCHOOL IMPROVEMENT

B) Investigating the impact of DASI upon student achievement

- ***Four experimental studies (see Table 1)*** revealed that DASI had a stronger impact on improving learning outcomes than the participatory approach to teacher and school improvement which gives emphasis to professional experience.
 1. The impact of a dynamic approach to professional development on teacher instruction and student learning: results from an experimental study (Antoniou & Kyriakides, 2011).
 2. Searching for stages of teacher skills in assessment (Christoforidou, Kyriakides, Antoniou, & Creemers, 2013).
 3. The impact of school self-evaluation upon student achievement: a group randomisation study (Demetriou & Kyriakides, 2012).
 4. Using the dynamic model of educational effectiveness to design strategies and actions to face bullying (Kyriakides, Creemers, Muijs, Rekers-Mombarg, Papastylianou, Van Petegem, & Pearson, 2013).

Table 1. Experimental studies investigating the impact of using DASI rather than participatory approaches that are based on practitioner’s expertise

Area of investigation	Impact on factors	Ultimate aims
1. Using DASI rather than the HA to offer INSET to primary teachers (n=130)	Only teachers employing DASI managed to improve their teaching skills	DASI had an impact on student achievement
2. Using DASI rather than the CBA to offer INSET course on assessment (n=240)	DASI had a stronger impact that CBA on improving assessment skills of teachers at stages 2, 3 and 4	DASI had an impact on student achievement
3. Using DASI to establish school self evaluation mechanisms in primary schools (n=60)	Not examined since schools had to deal with different improvement areas	DASI had an impact on student achievement
4. Integrating DASI with research on bullying to help schools (n=79) in five European countries to establish strategies to face and reduce bullying	DASI had an impact on school factors	DASI had an impact on reducing bullying

ESTABLISHING A DYNAMIC APPROACH TO SCHOOL IMPROVEMENT

B) Investigating the impact of DASI upon student achievement

- **Schools participating in these studies were not situated in socially disadvantaged areas.**
- Given that early effectiveness studies were concerned with identifying ways to help schools in disadvantaged areas to achieve learning outcomes (Edmonds, 1979), it is important to find out whether DASI can help schools in low disadvantaged areas to become more effective.

METHODS

A) Participants

- During the school year 2012-2013, a randomly selected sample of **40 primary schools in low Socioeconomic Status (SES) school communities of Cyprus** was selected.
- The school sample was randomly split into **two groups**. The first group made use of DASI to promote student learning outcomes whereas the second group received feedback on the functioning of their school factors and stakeholders were encouraged to develop school improvement plans using any approach they liked.
- We did not identify any statistically significant difference between the two groups in regard to the background characteristics of their students and their prior achievement in Mathematics.

METHODS

B) Dependent Variables: Student achievement in mathematics

- Curriculum-based written tests in Mathematics were administered to all grade 4, grade 5, and grade 6 students of our school sample at the beginning and at the end of school year 2012-2013.
- The written tests were subject to control for reliability and validity.

C) Explanatory variables at student level

- ***Aptitude***: Prior knowledge in Mathematics
- ***Student Background Factors***: Sex and SES

RESULTS

- ✓ Multilevel analysis was conducted by taking into account achievement gains of the *whole population* and of *each age group* separately.

A) Whole population

- In **model 1** the context variables at each level were added to the empty model.
- The effects of all contextual factors (i.e., SES, prior knowledge, sex) were significant.
- Aptitude was the only contextual variable which had a significant effect on student achievement when aggregated either at the classroom or the school level.
- In **model 2** the impact of DASI was tested.
 - **Schools which made use of DASI managed to promote student learning outcomes more than the control group.**
- However, the effect size of this intervention was very small ($d=0.11$).

RESULTS

B) Separate analysis for each age group

- Each separate analysis revealed that the effects of all contextual factors (i.e., SES, prior knowledge, sex) were significant.
- Different results emerged when the dummy variable measuring the impact of DASI was entered.
 - ***Students of Grade 4:*** No statistically significant difference between the schools which made use of DASI and the schools of the control group.
 - ***Students of Grade 5:*** The effect was statistically significant at 0.10 level.
 - ***Students of Grade 6:*** The effect was statistically significant at 0.05 level and the effect size was 0.17.

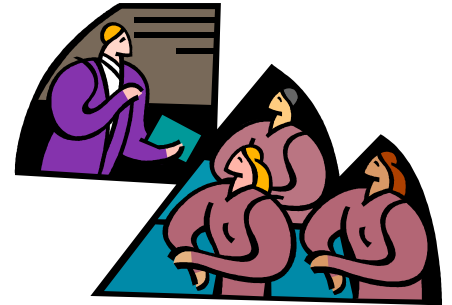
IMPLICATIONS

- Previous studies revealed stronger effect sizes of using DASl to promote student learning outcomes (see Demetriou & Kyriakides, 2012; Kyriakides et al., 2013).
- DASl seems to be less effective in promoting student learning outcomes in low SES school communities.
 - This finding can be attributed to the various other needs (beyond educational) that students of these schools may have.
 - DASl was offered for only a school year.

IMPLICATIONS

- DASI was found to be **more effective for promoting learning outcomes of older than younger students coming from low SES.**
- Further research is needed to test the **generalizability** of the findings of this study.
- Studies investigating the **sustainability** of DASI should also be conducted.

Thank you for your attention



For more information on this project please visit:

www.ucy.ac.cy/equality

or send us an email at kyriakid@ucy.ac.cy

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