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USING EDUCATIONAL EFFECTIVENESS RESEARCH TO DESIGN TEACHER PROFESSIONAL DEVELOPMENT PROGRAMMES: A GROUP RANDOMISATION STUDY

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Introduction

- Next to questions in respect to selection of teachers and their working conditions, a debate on how to improve teacher education and especially teacher professional development takes place (Dall'Alba & Sandberg, 2006).
- There is an onward discussion about the quality of teachers which research has shown to be one of the most important factors to influence learning and learning outcomes (Teddlie & Reynolds, 2000; Townsend, 2007).
- Despite the amount of studies on teacher training and professional development, the vast majority seem to ignore the results of EER.

Dominant approaches in Teacher professional development

- Zeichner (1983) was the first to identify and describe the paradigms that dominate practice in teacher education and professional development.
- Two dominant paradigms:
 - **Competency-based approach:**
Modularized programmes based on specific and rather isolated teaching skills
 - **Critical Reflection (Holistic) approach:**
Programs aiming at appraising the moral and ethical implicit in classroom practices, and the teacher beliefs and perceptions about good teaching.

Research Framework:

The **two main strands of research** in teacher education can be discerned into:

- **focus** of teacher education on the development of **specific competences** (Berliner, 1994)
- **provision of a more holistic approach** addressing not only specific knowledge and skills but also reflection on experiences and beliefs (Calderhead & Shorrock, 1997).

Research in teacher education

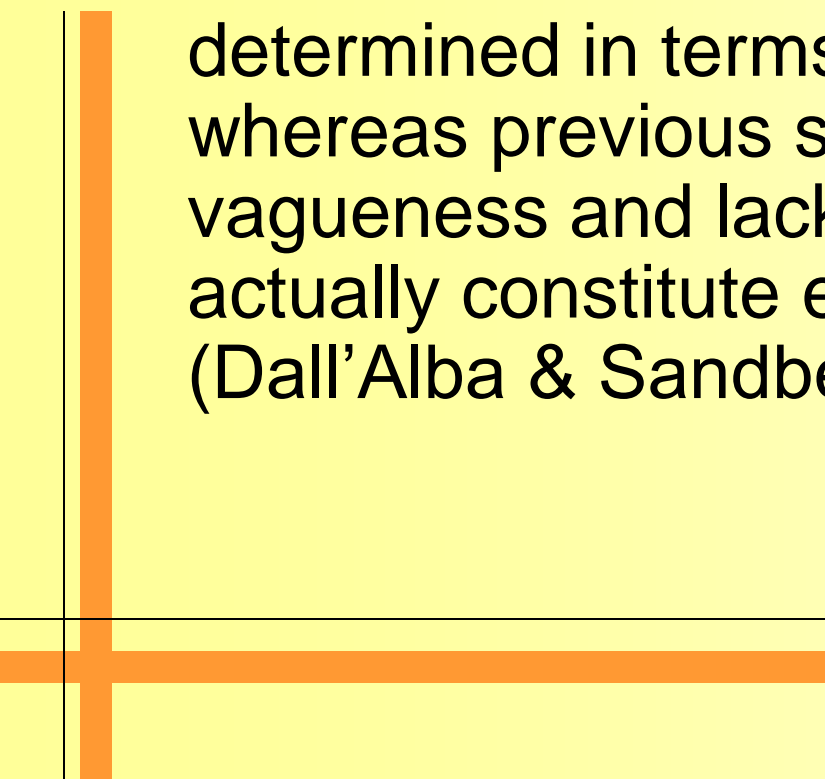
- The current approaches in teacher education and professional development argue that it is essential to merge the findings of Educational Effectiveness Research (EER) with the initiatives to improve teacher effectiveness through the development of teacher professional development programs.

An attempt to participate in this debate

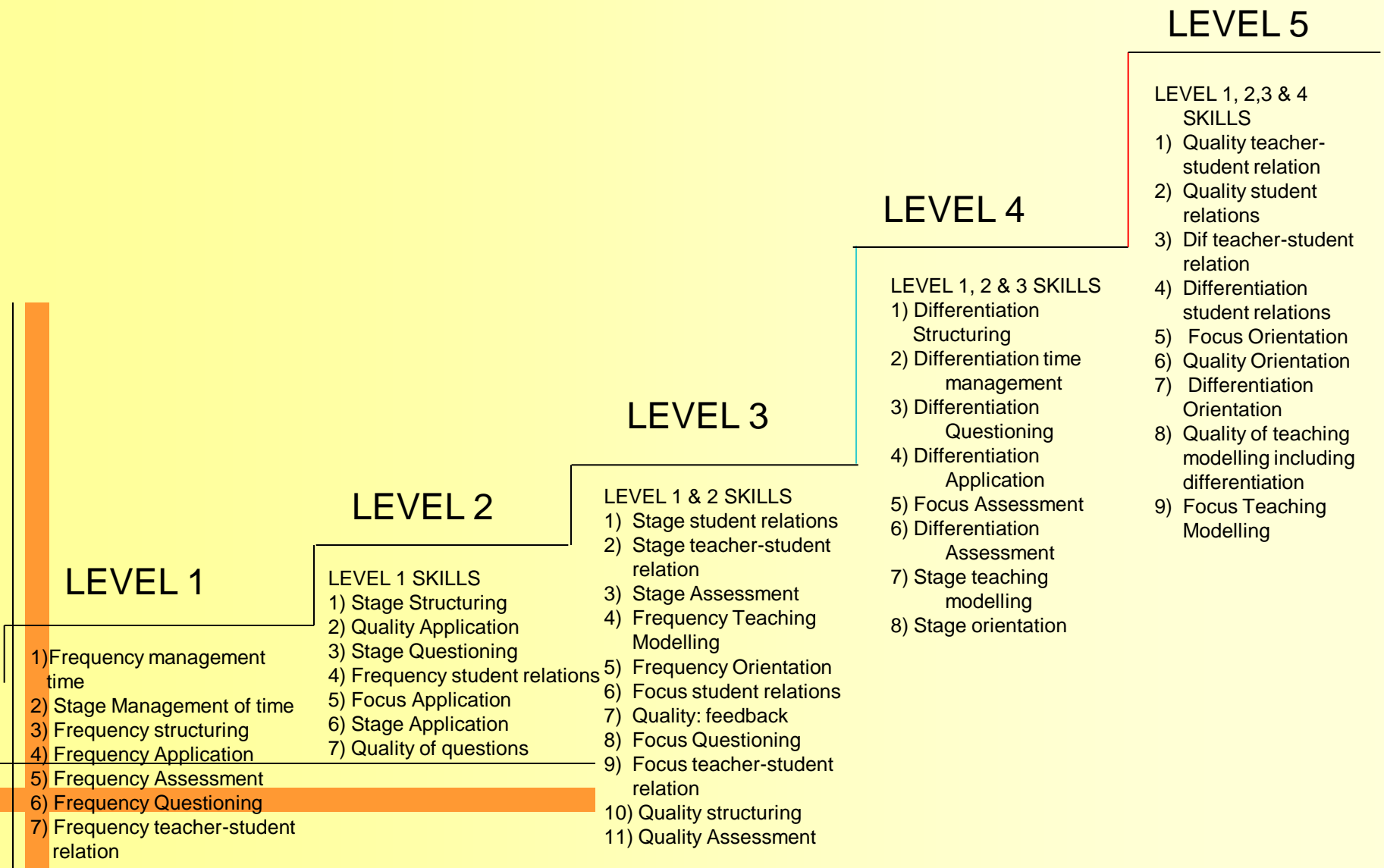
- A synthesis of the dominant two approaches in a more productive way is needed and this could be achieved by utilising validated theoretical models of EER and especially the dynamic model of educational effectiveness (Creemers & Kyriakides, 2008).
- Thus, the country specific project of Cyprus, embedded in the common project of this European study, is concerned with teacher education and teacher professional development by integrating findings of research on teacher education with the dynamic model.
- The use of the dynamic model as a theoretical framework to deal with policy and practice in teacher education is based on the fact that the model **places emphasis on the quality of teaching and uses an integrated approach in defining effective teaching by focusing on factors found to be associated with student outcomes.**

Previous research findings

- Previous research findings in Cyprus related with teacher behaviour and student outcomes in three different school subjects (i.e. Greek language, mathematics and religious education) revealed **grouping of factors at the teacher level** of the dynamic model of educational effectiveness (Creemers & Kyriakides, 2008).
- Specifically, research findings revealed that the **teaching skills could be classified into five stages**, structured in a developmental order and associated with student outcomes (Kyriakides, Creemers & Antoniou, 2009).

- This finding is in line with the stage models of professional development (e.g., Berliner, 1992).
 - What seems to be the principle advancement is that the content of each stage is now specifically determined in terms of specific teaching skills, whereas previous stage models suffered from vagueness and lack of clarity on what could actually constitute each developmental stage (Dall'Alba & Sandberg, 2006).
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- Kyriakides, Creemers & Antoniou (2009)



A new perspective

A dynamic Integrated Approach

- The **Dynamic** nature: The content of the program is based on the grouping of teaching skills included in the dynamic model of educational effectiveness.
- The **Integrated** nature: The model relies on the fact that this model could be situated in between the Competency and the Holistic approaches. Particularly, although the content of this approach refers to grouping of teaching skills and competences that were found to be positively related with student achievement, at the same time the participants are engaged into critical reflection on these teaching skills (Antoniou, 2009)

The Cyprus Project

- The Cyprus project investigates how teachers can develop their skills using the Dynamic Integrated Approach.
- Moreover, **the extent to which the impact of this approach depends on whether it is offered externally or on a school basis is examined.** This is also due to the fact that the dynamic model emphasizes the relation among school level factors (i.e., policy on teaching and policy on the school learning environment) and teacher professional development.

Main Research Questions

- Which is the most effective form of the Dynamic Integrated Approach, to train teachers in order to enhance their effectiveness and facilitate their progression to a next stage?
- Should this training take place externally or should it be on a school-base?

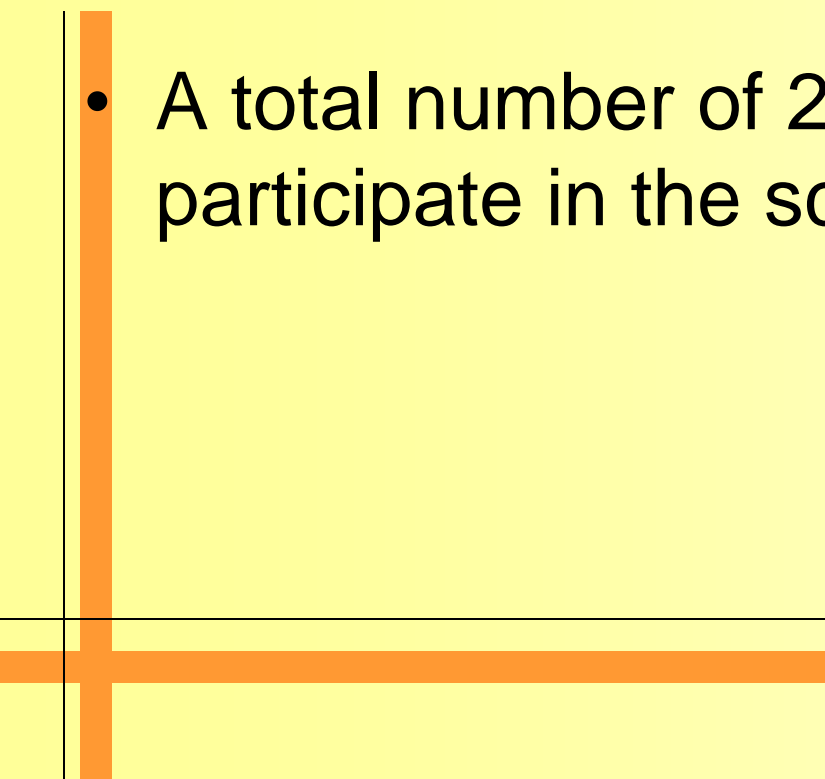
In search of the right match

Four approaches:

- the use of the dynamic model to develop in-service training programmes where people are appointed into stages
- the use of the dynamic model where people are free to choose their stage
- Offering the programme externally
- Offering the programme on a school basis

Which match of approaches is the most effective?

Research Sample

- A total number of 56 teachers volunteered to participate in the external training.
 - A total number of 20 schools volunteered to participate in the school-based training
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Research procedures

- Based on previous research findings an experimental study was designed to compare the effectiveness of four different approaches to teacher professional development in fostering improvement of teaching skills and ultimately facilitate teachers to progress to a next stage of teaching competences.
- The research is based on a group randomization experimental design and consists of four phases.

Data collection

1. **Classroom observations** to measure the quality of teaching
2. **Student tests** in mathematics in order to evaluate students' attainment
3. **Student questionnaires** to measure background characteristics (gender, SES and cultural capital) and other student factors that were found to be associated with student learning outcomes such as amount of time spend on homework and whether they attend private tuition
4. **Data for common project.**

Research procedures

PHASE 1: Initial evaluation of teaching skills and student outcomes

- The teaching skills of the teachers who volunteered to participate for the external and school based training have been evaluated by external observers. Data on student achievement in mathematics has been collected and student questionnaires were administered.
- The analysis of the observational data revealed that teachers could be classified into the same five developmental stages as those emerged from previous research findings.

PHASE 2: The formation of the experimental groups

The teachers who, according to their teaching skills evaluation results, proved to be in a certain developmental stage have been randomly allocated evenly into

- Experimental team A: Dynamic Integrated Approach
- Experimental team B: Dynamic Approach (free choice)

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Number of teachers	10	14	20	12	0

PHASE 3: Establishment of the training sessions

- The training program will last for the whole school year and the teachers of each team have to attend to seven sessions.
- The teachers employing the Dynamic Integrated Approach were assigned to four groups according to their developmental stage.
- The research team provided to the teachers of each group the supporting literature and research findings related with the teaching skills which correspond to their developmental stage only and made clear the area on which each group had to concentrate their efforts for improvement.
- With the assistance of the research team, each teacher developed his/her own action plan for improvement.

PHASE 4: Final evaluation of teaching skills, student outcomes and teacher perceptions

By the end of the school year, the teaching skills and the learning outcomes (student attainment) of the teachers who participated in the professional development program will be measured.

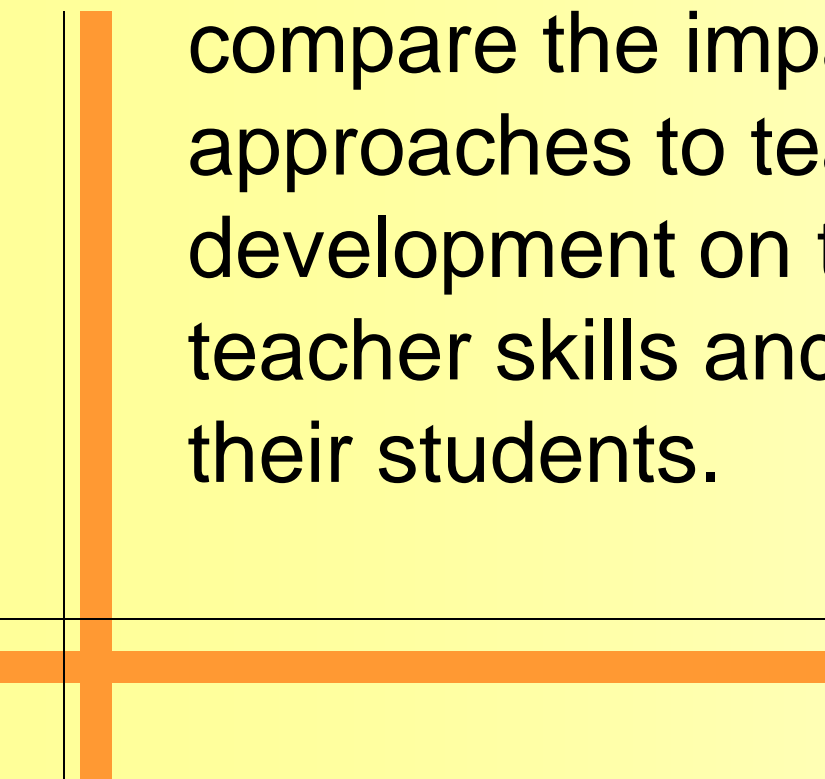
Other questions to be answered by the specific study.

- There has been always the paradigm that school based training is more effective than an externally offered training but no empirical evidence is available to prove this.
- Even if school based training proves to have an effect on teachers, the effect size should be greater than 0.5 in order to be worth adopting since internally offered training involves really high costs.
- Even if no such great effect size is revealed, the idea of school based training should not be deserted that easily since it may have an effect on the School Learning Environment.

Conclusion

- The Cyprus study will not only identify how the dynamic model can be used for teacher improvement purposes but will also investigate the functioning of school factors and their impact on the quality of teaching.
- Special emphasis is given to the functioning of an aspect of the overarching factor of the dynamic model concerned with the school learning environment, namely, the provision of opportunities for teacher professional development.

All in all, this presentation refers to the theoretical framework and research design of the country-specific project of Cyprus and presents the methods used in order to conduct an experimental study and compare the impact of four different approaches to teacher professional development on the development of teacher skills and the learning outcomes of their students.

A decorative graphic consisting of a vertical orange bar on the left side, a horizontal orange bar at the bottom, and a thin black crosshair intersecting at the origin of the orange bars.

Thank you!

