Characteristics of effective educational systems: A study testing the validity of the Dynamic Model of educational effectiveness

Maria Georgiou
PhD Candidate
University of Cyprus
Introduction

• Globalization is imposing pressures and necessitates the conduct of international studies in education

• The most of the studies were carried out within the countries, looking at factors that make difference between the classrooms and the schools within a single country

• The level of the system remains poorly explored
Lack of international comparative studies about the educational policies in different countries
Introduction

• The Dynamic Model of educational effectiveness (Creemers & Kyriakides, 2008) can be used as a starting point for establishing a theoretical framework that will support these studies.

• The conduct of comparative studies on countries’ educational policies demands access to detailed sources of data. A single source of evidence is inadequate.

• Possibility of a gap between the policy and the perceived impact - policy in action. Need for multiple sources of evidence for a clear picture of the applied policies.
The Dynamic Model

• The model refers to multiple factors of effectiveness, which operate at different levels and have both direct and indirect effects on student achievement.

• Each factor is defined and measured using five dimensions: Frequency, focus, stage, quality and differentiation.

• Teaching and learning are dynamic processes, constantly adapted to changing needs and opportunities.

• The final level refers to the influence of the educational system. Development and evaluation of policy at national level.
System level factors of the model

According to the Dynamic Model the most important factors operating at system level are

• School policy regarding teaching and actions taken to improve teaching in practice

• Evaluation of school policy regarding teaching and actions taken to improve teaching

• Policy towards creating a school learning environment and actions taken towards improving the learning environment

• Evaluation of the learning environment
School policy regarding teaching and actions for improving teaching

Quantity of teaching: Regulations which ensure that the quantity of teaching is kept at the maximum level

- Teacher and student absenteeism
- Teacher and students late arrival
- Lesson schedule and timetable
- Management of teaching time (interruptions, preparation for festivals etc.)
School policy regarding teaching and actions for improving teaching

Quality of teaching: Educational systems may develop standards of teaching or evaluation criteria that refer to the quality of teaching.

According to the model there are eight factors that enhance the quality of teaching in the classroom:

- Structuring
- Orientation
- Application
- Questioning
- Assessment
- Modelling
- Management of time
- Classroom as a learning environment
School policy regarding teaching and actions for improving teaching

Provision of learning opportunities: The policies at national level that encourage schools to undertake extracurricular activities that will contribute to the achievement of the curriculum aims

• Long and short term planning

• School trips and extracurricular activities

• Textbooks and resources

• Provision of support to students with special needs and gifted students
Purposes of the study

The study attempts to

• Investigate whether the proposed measurement framework can be used in order to understand the functioning of the system level factors

• Develop valid and reliable instruments measuring the system level factors

• Investigate the extent to which the factors situated at the system level of the Dynamic model are associated to student achievement
Documentary analysis

• Collection, study and content analysis of official policy documents (Project Eurydice, educational laws, official websites)

• Use of a specific measurement framework to measure the functioning of the factors

• A table for each factor, proposed by the model
  The table presents the policies of the educational system, which are related to the factor
  Profile of the country: The sum of the tables
Documentary analysis

• Each policy is getting down accompanied by information about the five dimensions of the model

Frequency: Number of policies
Focus: Law or guideline, groups that are involved
Quality: In line or not in line or not related to the model
Stage: Year of establishment / renewal year
Differentiation: Differentiation for specific groups of students or teachers or other stakeholders (parents)

<table>
<thead>
<tr>
<th>Suggestion</th>
<th>Guideline (optional) or law (compulsory)</th>
<th>For primary/secondary education</th>
<th>Groups/persons persons that are involved</th>
<th>In line with the model/literature Impact</th>
<th>Differentiation according to the age/group of teachers</th>
<th>Period of establishment/change of suggestion</th>
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<td>Each teacher prepares at the beginning of the quarter a three month Work Plan, which he shows to the headteacher (Long Term Planning) (1)</td>
<td>Law</td>
<td>Primary</td>
<td>Teachers Headteacher</td>
<td>In line with the model</td>
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<td>1997</td>
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<td>Each teacher prepares short-term planning (Weekly / Fortnightly Work Plan) which is available to the headteacher and the inspector, upon request (Short term planning)(1)</td>
<td>Law</td>
<td>Primary</td>
<td>Teacher Headteacher Inspector</td>
<td>In line with the model</td>
<td></td>
<td>1997</td>
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Documentary analysis

• The data collected using the profile format are classified, in order to have numerical scores for each country
• The numerical scores enable the comparison between the countries
Limitations/difficulties of the documentary analysis

• The main source is the project Eurydice and not all the countries are included in the project (some of them are not European)

• The online official documents of some countries are limited

• Many online documents are not translated in English

• Only a small number of the countries have posted in the internet their educational law
Interviews

• The limitations of the documentary analysis constitute the interviews really important

• Some of the interviews have been completed by the end of December

• Policy makers from different countries are interviewed

• The interviews are semi-structured
Questions included in the interviews (example)

**Question 1:**
We would like to know which policies and actions are taken in order to encourage primary teachers and schools to maximise teaching time in your educational system. Please refer to any type of actions that are taken such as the publication of official documents, the provision of guidelines to the schools, and the support offered by advisors.

**Checklist:**
- Long-term and short term planning of teachers
- Student absenteeism
- Teacher absenteeism
- Dropout
- Management of time at classroom and/or school level
- Regulations of policy related to any other issue linked to maximising teaching time
Policy in action

• Sometimes the policy in action is different from the policy that is included in the documents

When we see the policy in written form, we can not see the impact on practice, the way in which the teachers and the schools understand and apply it.

• A policy that looks beneficial in the documents, may cause malfunction in action

| For absences over five days for medical reasons the parents must take a certificate from the doctor who did the treatment (1) | Law | Primary | Teachers Pupils | Not in line with the model | 1997 |

NECESSITY: The collection of data from the schools, to identify the impact of the policies on the schools and the teachers
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<td>Each school should establish quarterly program of visits and tours for all classes (1)</td>
<td>Law</td>
<td>Primary</td>
<td>Pupils Teacher</td>
<td>In line with the model</td>
<td></td>
<td>1997</td>
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<td>Proper information and preparation of the children to maximize the educational benefit and safety (1) (4)</td>
<td>Law</td>
<td>Primary</td>
<td>Teachers Pupils</td>
<td>In line with the model</td>
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<td>1997</td>
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<td>The teachers should visit the places before to identify any dangers and take appropriate action (1)</td>
<td>Law</td>
<td>Primary</td>
<td>Teachers</td>
<td>Not related to the model</td>
<td></td>
<td>1997</td>
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<td>The director and teachers accompanying the children should be in service (1)</td>
<td>Law</td>
<td>Primary</td>
<td>Head Teachers Pupils</td>
<td>Not related to the model</td>
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Suggestions for conducting comparative studies to identify characteristics of effective educational systems

• The data should be collected through a variety of sources – triangulation

• We should find the crossroad between the policy in the documents and the policy in action
The next step of the study

• Continue of the data collection

• Interview and documentary analysis for twenty countries

• Collection of data from schools: Questionnaires to the teachers to measure the perceived impact of policy

• Data from TIMSS 2007 study on student achievement in mathematics and science - to investigate the extent to which the system level factors can explain variation in student achievement
Thank you for your attention! Enjoy your stay in Cyprus!