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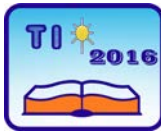
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## Comparisons of educational processes and students assessments in Spain and Serbia

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**Abstract:** *The aim of this paper is to explore how different education processes are in the terms of formal, informal and non-formal education shape and support student's assessments. Special attention is paid to the importance of complementary elements of official education which could influence values critical to a personal development of youth. Furthermore, the paper focuses on the role of information-communication technology (ICT) as an accessorial factor in different education processes which facilitates learning process, makes knowledge more accessible and less abstract. Recent reforms of settings and frames of educational policies as well as student's achievements in Spain and Serbia have been explored and contrasted. In essence, the paper gives insight into educational polices through the lens of the students assessments in order to outline the best practices and to point out preferably improvements in this matter.*

**Keywords:** *education policies; student's assessment; ICT*

### 1. INTRODUCTION

There is no doubt that the essential core of what education represents is highly complex process of learning. Therefore it is not surprise that motion pictures in 1920s, radio, educational television, computers in 1980s and nowadays smart devices and MOOCs (Massive Open Online Courses) have failed to revolutionize the education. Instead of that, these educational evolutions have strongly pointed out that we shouldn't be confused by learning process with devices itself and furthermore that educational technology won't instantly show significant difference in improving student's procedural reasoning skills, according to Crosier and Simeoni (2015). Especially, if we keep in mind the fact that social component has fundamental role in the process of learning. At the same time, it is more than obvious that technology will be ever present in the future, since the 'digital natives' live with it in every point of their lives. Therefore, instead of avoiding technology or overemphasizing its role in formal education more attention should be paid on using opportunities of informal and non-formal education which could foster students' knowledge, since a variety of educational medias as YouTube, blogs and so on has already been used by students on daily basis. In this way learning outcomes could be improved as well as self-directed learning which is crucial for student's assessments in general according to Mocker (1982). Definitions

of each of them have been given by Coombs (1973):

*“Formal education: the hierarchically structured, chronologically graded ‘education system’, running from primary school through the university and including, in addition to general academic studies, a variety of specialized programs and institutions for full-time technical and professional training.*

*Informal education: the truly lifelong process whereby every individual acquires attitudes, values, skills and knowledge from daily experience and the educative influences and resources in his or her environment – from family and neighbors, from work and play, from the market place, the library and the mass media.*

*Non-formal education: any organized educational activity outside the established formal system – whether operating separately or as an important feature of some broader activity – that is intended to serve identifiable learning clienteles and learning objectives.”*

At the same time, according to Kedrayate (2012), tendency of formal education to lead students to ‘white-collar jobs’ has unfairly neglected other forms of education, as for instance a non-formal education with a long lasting tradition and great influence to the children and youth. Moreover, Mocker (1982) recognizes individual's attitudes and interaction with society in general as essential parameters which give meaning to information. The last statement indicates that knowledge and academic assessments of each student depend exclusively on usage of diversity of educational processes.

We have been very interested in achieving deeper comprehension of what are the possibilities, crucial strengths and shortcomings of different educational practices both in Spain and Serbia. At the same time, data on informal and non-formal education was more than poor, which influenced that the paper became more focused on differences in formal education and students assessments in these countries.

## 2. EDUCATIONAL POLICY IN SERBIA

In order to contrast educational systems in Spain and Serbia, Eurydice network (Education Information Network in Europe) reports have been used. One of the most significant roles of this network is the support in providing relevant information on education systems and policies in European education systems. Its numerous reports are explaining, among all, how is each of the European education system organized and therefore represents significant guide for improvements of every and each of them.

When it comes to Serbia, according to Eurydice (2015) reports, ‘Ministry of Education, Science and Technological Development bears overall responsibility for developing and implementing education policy’. At the same time, educational institutions are given high level of autonomy in planning and performing educational activities. Furthermore, education system is composed of:

- Preschool education and care (nursery, kindergarten and preschool preparatory program – which is the first part of compulsory education),
- Primary education (8-years-lasting compulsory education),
- Secondary education (3/4 –years-lasting education; grammar schools, vocational schools, art schools, etc.) and
- Higher education academic and profession-oriented studies; each academic year brings at least 60 ECTS and is divided into three levels:
  - Bachelor and undergraduate studies (3/4 years long)
  - Master and specialized studies (1/2 years long)
  - PhD studies (3 years long).

The potentials of informal and non-formal education in Serbia are underused and students are neither encouraged nor informed how to explore its benefits because of the lack of organized centers as socio educational services and educational associations. According to Ježdmirović (2014), inadequate training for teachers in the usage of new technologies and not increasing number of useful web pages and programs in Serbian that could be complementary pedagogical tool (even if the students were encouraged to use them for the educational purposes) are contributing factors for not solving this matter.

### 3. EDUCATION POLICY IN SPAIN

The current Spanish education system relies on the Act on the Improvement of the Quality of Education from the 2014/15 school year and it is composed of:

- Pre-primary education (no compulsory education, up to 6 years of age),
- Basic education (10-years-lasting, compulsory education) consisted of two stages:
  - Primary education (6-years-lasting education) and
  - Compulsory secondary education (4-years-lasting education)
- Upper secondary education (2-years-lasting education): Bachillerato (general branch) and intermediate vocational training (professional branch) and
- Higher education comprises university and vocational studies and leads to the award of Bachelor's, Master's and Doctoral degree.

Mora et al. (2000) explains how Spanish educational system is more focused on knowledge than on student's skills which further leads to the conclusion that Serbian education system is not the only one which has tendency to neglect or underuse potentials of informal and non-formal education. On the other hand, the same author, informs of the undertaken reforms which are leading to more empiricist and flexible curricula' of the learning process. More recent research, for instance Cañameras and Giménez (2005), have reported numerous socio educational services and educational associations which have been making serious efforts to raise both their educational roles as well as public awareness about their activities in this area. Same authors, also claim that there are problems in informal and non-formal education as a law framework and how the activities are funded, but they also emphasize the importance and influence of educational centers as The Catalan Federation of Leisure Time Education (Federació Catalana de l'Esplai) that was created in 1996 and nowadays is composed by 104 centers, some of them with an experience over 30 years, with 11,000 children and young people and 1,400 educators and which are actively contributing in solving these issues.

### 4. STUDENTS ASSESSMENTS IN SERBIA AND SPAIN

For the purpose of comparing students' assessments in Spain and Serbia, Program for International Student Assessment (PISA) test results from 2009 and 2012 have been used. This international study has been conducted by OECD in member and non-member nations since 1997. and repeated every three years in order to measure problem solving skills and cognition in daily life of 15-year-old school pupils. Therefore, similarities and differences in the students' achievement in these two countries are viewed and contrasted in lenses of mathematical knowledge, reading competences and scientific literacy – all in accordance with above mentioned international test results.

#### 4.1. Mathematical literacy

Looking at the average points for Organization for Economic Co-operation and Development (OECD) countries, of which Spain is a member, Serbian student's results show a difference of about 45 points in both PISA tests. This statement indicates that students from Serbia should be provided with the additional year of schooling in OECD school systems<sup>1</sup> in order to reach the assessments of their peers from Spain. Disturbing results for Serbia and yet favorable ones for the Spanish school system are reflected in the percentage of severity of functional literacy in the field of mathematics, where the most significant differences are shown in Figure 1.

	Proficiency levels in PISA 2009		Proficiency levels in PISA 2012		Change between 2009 and 2012 (PISA 2012 - PISA 2009)	
	Below Level 2 (less than 407.47 score points)	Level 5 or above (above 625.61 score points)	Below Level 2 (less than 407.47 score points)	Level 5 or above (above 625.61 score points)	Below Level 2 (less than 407.47 score points)	Level 5 or above (above 625.61 score points)
	%	%	%	%	% dif.	% dif.
Spain	23.7	8.0	23.6	8	-0.1	0
Serbia	40.6	3.5	38.9	4.6	-0.7	1.1
OECD average	21.9	12.7	23.1	12.6	1.2	-0.1

**Figure 1.** Comparances of PISA's test results in mathematical literacy

When considering talented students and those who can give more detailed explanations and apply methodological knowledge in real life, both countries are below the OECD average, but Spain, again, is in a better situation. Viewed in the context of mathematical competence Serbia is on par with Greece, Turkey, Romania and Bulgaria, while the fifteen-year-old Spanish students reached the same level as pupils from Portugal, Italy, Russia and the United States.

#### 4.2. Reading Literacy

Reading literacy is one of the most important competencies in modern society because represents a person's ability to understand and use various types of texts, as well as to implement certain reading strategies and techniques of regulation. Looking through lens of PISA tests, Serbia has lower results than Spain by approximately 40 points on the PISA scale, which corresponds to a school year in the OECD countries. The difference between the average achievement in individual components and the average achievements on the reading literacy scale, shows that students from Serbia cope better in certain approaches than their peers from Spain, but achieve poorer results in the consideration and evaluation of a given text (Figure 2). At a time of very rapid development of science and technology, this could be outlined as one of the biggest issues in the Serbian education system and society in general.

<sup>1</sup> Monitoring the results of PISA testing has been shown that one year of schooling in OECD countries is equal to increase of about 40 points on PISA tests

	Proficiency levels in PISA 2009		Proficiency levels in PISA 2012		Change between 2009 and 2012 (PISA 2012 - PISA 2009)	
	Below Level 2 (less than 407.47 score points)	Level 5 or above (above 625.61 score points)	Below Level 2 (less than 407.47 score points)	Below Level 2 (less than 407.47 score points)	Level 5 or above (above 625.61 score points)	Below Level 2 (less than 407.47 score points)
	%	%	%	%	% dif.	% dif.
Spain	19.6	3.3	18.3	5.5	-1.3	2.2
Serbia	32.8	0.8	33.1	2.2	0.3	1.4
OECD average	18.5	7.7	17.9	8.5	-0.6	0.8

**Figure 2.** Comparances of PISA's test results in reading literacy

#### 4.3. Scientific literacy

Contrasted to the OECD average points students from Serbia should be provided with a year and a half of the additional schooling in OECD school systems in order to reach their Spanish peers in scientific literacy assessments. Furthermore, this indicates that a majority of students in Serbia neither would be able to integrate knowledge from different disciplines nor will be able to apply them in everyday situations. The results related to the percentage of students in Serbia who are on the fifth level of scientific literacy or above, indicate that only 15 out of 1,000 pupils would be able to recognize, adapt and re-use the scientific elements in everyday life. This is the area where, Spain, and especially Serbia are stagnating in comparison to the countries that are members of the OECD.

## 5. CONCLUSION

For the purpose of investigation and outlining crucial educational practices which could easily facilitate students' skills and knowledge, this paper have contrasted recent reforms of educational policies and student's assessments in Spain and Serbia. Overall viewing of the PISA tests results, leads to the conclusion that Spanish educational system is much closer to the average of OECD countries than Serbian. Moreover, the tendency of European Union countries, concerning the decrease of percentage of students who are below the lowest level of competences in all areas, is achievable in Spain, which is not the case for Serbia – despite the fact that both countries have been going through educational reforms and changes in general. Although PISA tests are not concerned about foreign language literacy and ICT competences as necessary skills of modern society, it is more than obvious that educational processes in Serbia should adopt examples of better educational practices. For further consideration, it is left to monitor development of educational curriculum and student's assessments, in order to accomplish success in this issue. Besides the appalling fact that Serbia did not even participate in PISA 2015 tests, it is notable an increasing number of educational associations which have been making serious efforts to raise their educational roles– all its necessary is to draw public awareness about their activities in this area as well as the importance of proper education!

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