



RESEARCH NOTES

Using Performance Indicators to Design the Outlook on Quality and Efficiency of Education Systems. A Comparative Analysis (Romania-France) of Students' Results at International Assessments

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Abstract:

Through this article we aim to analyse, using the perspective of comparative statistics, the quality and efficiency of two education systems - the Romanian and the French one – based on the following indicators: student results at national and international assessments; results in graduation exams; the share of students studying a foreign language. Regarding the results of the students at national and international assessments, there will be taken into account especially the Programme for International Student Assessment (PISA), the Trends in International Mathematics and Science Study (TIMSS) and the Progress in International Reading Literacy Study (PIRLS). It will also be analysed, in a comparative manner, the results of the graduation exams registered by Romanian and French students, starting from the reports prepared by the Ministry of National Education (Romania) and the French Ministry of Education, Youth and the Voluntary Sector. Thus, the purpose of this article is, on the one hand, to highlight the similarities and differences between the two social subsystems and, on the other hand, to outline some examples of good practice that can be used to correct existing problems in both countries.

Keywords: *education system; performance indicators; assessments; results.*

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Context: why PISA?

PISA assessment tests, as well as other evaluation tools (such as TIMMS or PIRLS) are indicators that are used to analyse the effectiveness of education systems, in addition to other important indicators such as: the insertion rate of graduates at different levels of education, the performance rate from one educational level to the next one, the dropout rate etc. In essence, tools for assessing pupils' skills are seen, as we would present in the following paragraphs, both a cause for the implementation of possible educational reforms and its consequence (OECD, 2004).

Why is it often referred to the results of PISA tests, as compared to the results of other evaluation tools? Because, compared to them, the PISA program has a number of features that differentiate it from other programmes and better highlight its usefulness:

a) first of all, PISA is based on the assessment of skills and not of the curriculum in different societies, which can lead to the achievement of those international rankings and comparative analyses between education systems; b) secondly, by conducting inquiries every three years, PISA offers a guarantee of the “periodicity of the tests and of the diachronic coherence” (Bottani, 2006: 10-11) and c) thirdly, the PISA assessment is based only on 3 areas of competence, and on a well-defined sample (15-year-old pupils).

It should be noted that these characteristics represent for some specialists in the field of educational sciences the strengths of the PISA tests, but for other specialists they can be considered vulnerable points, which could make us doubt the usefulness of the evaluation results: more precisely, you cannot evaluate the performance of an education system using only the skills assessment (and not also the curriculum), using a small set of areas where you test students' skills, or applying the tests to a narrow category (sample) of school population. In all PISA survey countries, the results obtained by the pupils are expected after each “wave”, being the subject of numerous media debates, at the level of policy decision makers and educational stakeholders and governance actors (Sauvageot, Dalsheimer, 2008).

In addition, what is interesting is that the countries with the best PISA test results (for example Finland, which occupies Europe's 1st position in 2015) are those who pay higher salaries to teachers, per capita GDP, and have the highest percentage of GDP invested in education. Beyond the criticism of these assessment tools (some of them will be presented in the last paragraph of this article), especially criticisms that regard their objectivity and relevance, the PISA tests are increasingly considered "self-evident" (Roegiers, 2004: 38-39).

What is PISA and could it be used to measure the quality and efficiency of educational systems?

Together with TIMMS or PIRLS, PISA (officially launched in 1997) represents a standardized assessment tool that has emerged as a result of societies' efforts to evaluate their education systems, trying not to measure what pupils know, but if they possess those skills considered to be “indispensable at the age of 15, in order to live in democratic and market economy societies” (Bottani, 2006: 12).

If, by the end of the 1950s, the differences in educational systems in OECD countries were considerable and the extent of these systems was still relatively small, forty years later, the PISA test framework was based on the “standardization of educational models that has narrowed differences between education systems by aligning them with each other (Ball, 1998: 130-199).

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This evaluation program was put into practice by the Organization for Economic Cooperation and Development (OECD) in the late 90s and since 2000 has allowed harvesting, every three years, data on 15 years pupils performance in what has been called *literacies* in three areas: reading literacy, mathematical literacy and scientific literacy. The age of 15 is not accidentally chosen in most OECD countries because at this age the pupils are near the end of compulsory education and thus some of the key competences acquired during the ten years of formal education can be measured.

Therefore, it is not the skills or knowledge that are actually taught in the classes that are evaluated through the PISA tests, but rather the use of a “baggage” that allows the in-depth understanding and resolution of situations that an adult might encounter in his personal, public or professional life (OECD, 2007: 16, Schleicher, 2007).

Thus, PISA tests aim to assess the presence or absence of skills considered to be “essential” for an adult’s life (OCDE, 1999).

The results of these evaluation tests serve for comparative analyses between the education systems of the different countries participating in the PISA evaluation program and their number is increasing. Thus, if only the OECD member countries (43 countries) participated in the first testing campaign in 2000, their number increased gradually to 57 (in 2003) and reached to 72 (2015). Of the 72 countries that participated in the 2015 wave, 35 countries were OECD countries and 37 countries were partner countries. Each PISA test wave begins with the pre-test stage, one year before the actual test, involving between 4500 and 10,000 pupils in each country (<http://www.oecd.org/pisa/aboutpisa/>). The 2018 survey was attended by pupils from 80 countries, of which 35 are OECD countries and 45 partner countries.

Even though some authors have a prudent attitude towards the use of PISA results for comparative purposes, the fact that the number of countries participating in the PISA assessment has increased more and more, demonstrates that many societies have identified PISA’s opportunity to see where they are in relation to other societies, and even in relation to themselves, over time. In this sense, Bolivar (2011: 64) argued that “PISA has managed to occupy the public education space like no other type of report or survey”. The statistics resulting from the centralization of PISA-related data are not only the score obtained by pupils; in other words, statistics can be viewed on the OECD website showing the link between the characteristics of the school or the environment in which the pupil comes from and its educational outcomes.

Thus, we can consider that the PISA evaluation has a dual nature: on the one hand, it is a knowledge production activity useful to think education, and, on the other hand, an approach that put into evidence the “good practices” in a kind of educational benchmarking between societies.

In this way, PISA can influence the national education policies, being a tool of “soft governance”, which is based on indirectly suggested recommendations, not having an imperative regulatory character (Barroso, Carvalho, 2008).

And this “soft governance” can be exemplified by analysing PISA's influence on educational policies across different societies, over time. For example, according to Breakspear (2012), following a standardized survey of 37 participating countries at PISA, the representatives of 17 of them answered that PISA had had a strong influence on the educational policies. In addition, 26 countries rated PISA as a very important program in terms of their ability to measure the effectiveness of education systems.

Pisa 2015 Results: A comparative analysis: Romania-France

This section of the article aims to analyse, in a comparative manner, the results from the PISA tests of Romanian and French students at the 2015 wave. On one hand, France participated in international surveys on the assessment of student achievement, from its beginning. The active presence of its delegates in the development of survey tools can be highlighted. This participation is accompanied by a position that is often critical or even sceptical of the orientations followed. On the other hand, Romania participated for the first time in PISA testing in 2000, with only one absentee, in 2003. If we compare the results recorded by Romania to all the PISA survey waves with those recorded by France, we will notice the differences that exist between the two societies; for this article we chose to present, in the table above, only the results obtained by the two countries in the PISA tests of 2015.

Table 1: PISA results in France and Romania (2015)

Country (by order of ranking)	Science	Reading	Mathematics	Science, Reading and Mathematics	
	Average score at PISA 2015	Average score at PISA 2015	Average score at PISA 2015	Percentage of performing students in at least one subject (level 5 or 6)	Percentage of underperforming students in all three subjects (below level 2)
OECD average	493	493	490	15.3	13.0
Finland (1st rank in Europe)	531	526	511	21.4	6.3
France	495	499	493	18.4	14.8
Romania	435	434	444	4.3	24.3

Source: OECD, PISA 2015 Database, Tables I.2.4a, I.2.6, I.2.7, I.4.4a and I.5.4a. *PISA 2015 Results in Focus*, p. 5

From the above table, it can be seen that pupils in both countries recorded results below those of Finnish students in all three areas (Finland having an average score of 531 in Science, 526 in Reading and 511 in Mathematics). In other respects, the French pupils results are approaching or even surpassing the OECD average scores, especially in Reading (with a score of 499 points, comparing to 493 OECD average score) and Mathematics (with a score of 493 points, comparing to 490 OECD average score). The percentage of performing pupils in at least one subject (level 5 or 6) was 18,4% and that of the low performers – 14.8%.

In addition to the data presented in the table above, which may lead us to consider the French education system as being more performing than the Romanian one (compared to the results achieved), the PISA 2015 Report revealed a paradox: although it can be considered a performance education system (registering scores close to Finland, 27 rank, out of 72), at the same time it is a system of education that generates social inequality. This conclusion is also confirmed by the theories of some French authors who have analysed the relationship between the two variables (education systems and

school inequalities), concluding that the former are one of the causes for the second (see Duru-Bellat, 2002; Duru-Bellat, Suchaut, 2005; Mons, 2007).

Thus, pupils from the most disadvantaged backgrounds are four times less likely to succeed than others (a 2 years gap between favoured and disadvantaged ones). At the same time, pupils with an immigrant background are more likely to be socially disadvantaged than non-immigrant pupils (a 3 years gap). However, even when compared to pupils of the same socio-economic status, they are generally less successful in PISA testing than non-immigrant pupils.

These conclusions are transforming France in a country of social reproduction, in which a large part of the school success is linked to social origin (pupils of better (favoured) social origin have better results than others), which is confirming the theoretical perspectives on the inequality of chances (Bourdieu, Passeron, 1970; Boudon, 1993).

At the same time, the results of the PISA 2015 survey highlighted the fact that Romania ranks 48th out of 72. Romania's results in Science (the focus area on the 2015 tests) are 435, compared to the OECD average score of 493, and the best score for Singapore, which was 558. The results for Romania can be compared to those obtained by countries such as Moldova, Albania, and Turkey, Cyprus, the United Arab Emirates, Uruguay (OECD, 2015; Motoi, Lazăr, Ștefan, 2018: 114).

In Reading, Romania has accumulated 434 points, with performances similar to Uruguay, Bulgaria or Trinidad and Tobago and higher than those of Mexico and Thailand (OECD, 2015; Motoi, Lazăr, Ștefan, 2018: 114).

As for the results recorded in Mathematics, Romania recorded the average score of 444 points (445 points in 2012, when Mathematics was the main domain), with similar performances to countries like Greece, Bulgaria, Cyprus, or Argentina and Turkey, compared to the results of PISA 2012 (OECD, 2015; Motoi, Lazăr, Ștefan, 2018: 114).

In all the three analysed areas (reading, science, mathematics), Romania is at a great distance compared to the European average. Thus, according to PISA 2015, 42.9% of pupils are "functional illiterates", compared to an average OECD of 29.1%; in mathematics, the share is 39.9% of pupils who do not manage, compared to an average of 24.4%; and the share of very poorly educated pupils in science is 38.5% compared to the European average of 23.1% (OECD, 2015).

What can be observed from the comparative analysis of the results obtained in France and Romania at PISA 2015? First of all, that the problems specific to the education systems are different: if the French education system faces, among other things, the problem of equity and educational social justice, the Romanian education system still has disfunctionalities related to the level of pupils' basic competences; this fact makes it a priority of public policies and educational reforms in the future to address the issue of reducing the rate of functional illiteracy and the attainment of European social policy objectives in the field of education and training, according to which, the share of youths (pupils under 15 years) "who do not have adequate capacities in terms of reading, mathematics and science will have to be up to 15%" (Ilie Goga, 2014: 202).

Moreover, in Romania, the problems faced by the education system are structural: insufficient allocation from the national budget (only 3.1% of GDP in 2016), poor infrastructure (especially in rural areas), high school dropout rate especially in socio-economic and especially in rural areas (and it is well known that "long-time outside school generates a massive risks to social integration of young people" – Pricină,

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2018: 71), a correlation between education and the labour market significantly reduced through the low involvement of socio-economic representatives (employers) in the development of the curricula, especially at the technical and vocational education level or even at the university level (Niță, Ilie Goga, 2014: 112). In long term, those problems, still persisting can contribute to other social problems, such as long-time outside school and family, such as the time spent on the streets or neighbourhood, generates a massive risk to social integration of young people.

Critics. How can we use PISA to measure the quality and efficiency of educational systems?

Generally, critics of PISA tests start from the following questions: *What does PISA want to assess? Through this program, is it assessing what is important for any educational institution? If a country scores poorly on the PISA assessment, does it mean that its education system is inefficient and non-performing?* As they are designed, the PISA assessment tests aim, in particular, to compare student performance in a particular country with other countries in order to make adjustments at the education system level, rather than in order to certify the competences and school achievements of pupils. However, their influence on the educational systems becomes such that, imperceptibly, their influence extends to the contents of certification tests of student achievement, both national and regional or local, or even to the plans and project in which this certification falls within.

There are also critical points that highlight the fact that PISA tends to classify, to tidy up, rather than to help the pupils; the primary concern is no longer centred on the pupil and his learning (Roegiers, 2012).

Therefore, the school is increasingly stripped of its primary function, which is to learn and help the pupil to learn, in favour of an attitude of attributing to the pupil the responsibility of his learning and process of skills development. As Roegiers tells us, the use of standardized international tests “helps to divert the educational system from its social role” (Roegiers, 2010: 7).

The PISA tests, as they are currently organized, do not take into account the specificity of the national educational programs, nor the hourly volume of each discipline, nor the percentage of allophones (as for example, the Italians of the Greek in Montreal, or the Romanian in Italy). Also, the tests do not take into account and the fact that the “tested” pupils come from different nationalities, with different cultural backgrounds (if we think, for example, of the history of Finland). These cultural antecedents lead to different student responses to questions.

Another problem is the use, since 2015 vague, of computerized questionnaires, without having first asked the question of *what effects the use of this tool would have on pupils?* However, certain problems and weaknesses of these computerized tests appeared in 2015: for example, the difficulty of some young people to use them (from countries where the ICT in education is not so well developed (Motoi, Lazăr, Ștefan, 2018); the impossibility to go back on an answer; different behaviour of the pupils in front of the computer according to their nationality etc.

Last, but not at least, other perspective of analysing the PISA is the absence in these tests of the “life skills” dimension, to which international institutions, such as UNESCO or UNICEF attaches increasing importance (De Ketele, 2006, 2009).

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