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Successful Education Reform: Lessons from Poland

Key Messages

- **Poland's education reforms have produced a large overall improvement in educational performance, as measured by results on the OECD Program for International Student Assessment (PISA) test[1].**
- **Before 1999, primary school in Poland was 8 years, followed by tracking into vocational or academic programs. Now, the primary cycle has been changed to 6 years, followed by 3 years of comprehensive lower secondary school or *gymnasium* for all students, before a vocational tracking decision is made.**
- **Poland now ranks 9th among all countries in overall reading scores on PISA, the only transition country to go from being below the OECD average on PISA to above average.**
- **Increased hours of instruction and delayed tracking of students into the vocational education stream were the most important factors in the improvement of test scores.**
- **In 2000, only 1% of Polish students received more than four hours of language class, while in 2006, 76% of students received more than four hours of language class.**

Introduction

The importance of a strong education system for a country's economic growth and success is no longer a matter of debate in policy circles. Virtually all governments around the world have been re-examining their education systems in an effort to better position their countries in the changing global marketplace. Poland stands out as a country that has achieved impressive changes in a short time.

This Knowledge Brief describes the educational reforms that Poland undertook and presents an analysis of the results, based on information garnered from Poland's performance on the Program for International Student Assessment (PISA), a standardized international test. Analysis of the PISA results helps pinpoint those aspects of Poland's reform that were most effective in helping raise student achievement.

The Polish Education Reform of 1999

Poland began its ongoing educational reforms in 1999. The goal of Poland's education reforms was to improve the overall level of education in society, increase educational opportunities for citizens, and improve quality and equity of the education system.

Until 1999, the configuration of the basic education system in Poland relied on a traditional dual structure involving:

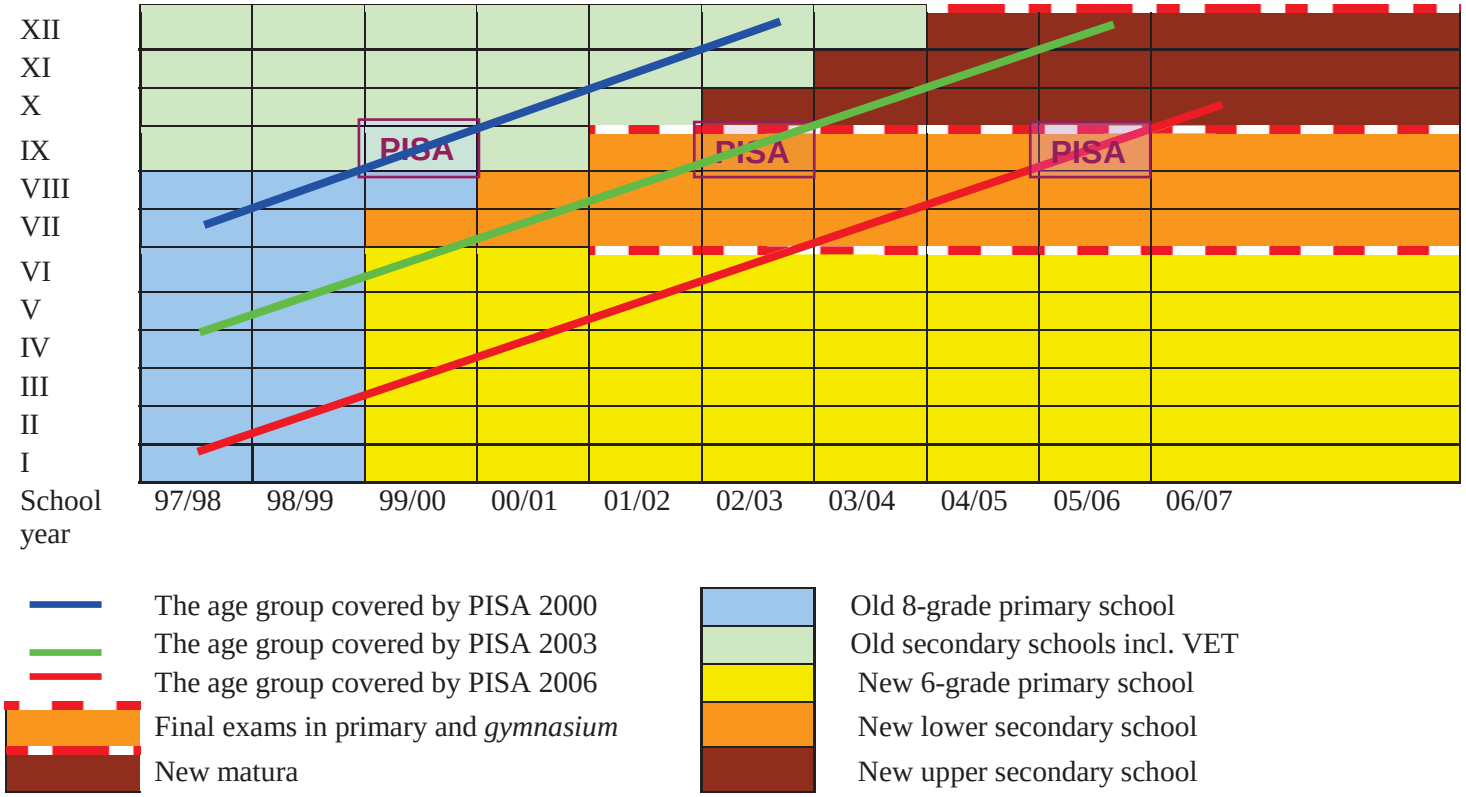
- A comprehensive primary school cycle lasting 8 years.
- A secondary school cycle with two tracks: a general track (called *lyceum*) which lasted 4 years, or a vocational track that could last either 3 years (basic vocational school) or 5 years (secondary vocational school, also called *technikum*).

In other words, basic education for children meant anywhere from 11 to 13 years of schooling (depending on track choice and duration), and that the direction and

1 The PISA (Programme for International Assessment) test is a standardized international test coordinated by the Organization for Economic Cooperation and Development (OECD).

duration of their education had to be decided at the end of primary school at around the age of 14.

Figure 1: PISA and the Polish Reform Cohorts



Note: VET refers to vocational technical education
Source: World Bank analysis of Poland PISA performance

Among other changes[2], the 1999 reform altered this prevailing configuration in two ways:

- It delayed the choice of following a vocational track by one extra year (when students reach the age of 15).
- It expanded and made more homogeneous the supply of schools within streams.

The first step was reached by turning basic education into a three-pronged system:

- A comprehensive primary school cycle of 6 years
- A comprehensive lower secondary school cycle of 3 years.
- A two-track upper secondary school cycle that could last either 3 or 4 years, depending on the choice of stream.

The second effect was achieved by:

- Creating a second type of general education schools (profiled as 'general secondary schools').
- Reducing by 1 year the duration of the *technikum*[3].

One of the key goals of the new configuration was to raise the quality and relevance of secondary education. In particular, by delaying the vocational stream choice by 1 year and shortening the maximum duration of this track by another year, Poland revamped its secondary education system to make it more suitable for the new competencies

2 A description of some of these changes, particularly with respect to the financing of the system, is offered in Jakubowski, M. & Topińska (2006), "Impact of Decentralization on Public Service Delivery and Equity - Education and Health Sectors in Poland: 1998-2003", Center for Social and Economic Research, Department of Economics, Warsaw University.

3 A simplified diagram of the configuration can be seen in M. Jakubowski, H.A. Patrinos, E. Porta, and J. Wiśniewski (2010), "The Impact of the 1999 Education Reform in Poland", World Bank Policy Research Working Paper Series 5263. For the complete official scheme submitted by Polish authorities to the Bureau for Academic Recognition and International Exchange, see http://www.buwiwm.edu.pl/educ/schemat.htm.

needed for a knowledge economy (as a well-known World Bank report has extensively documented)[4].

In addition to the structural changes, Poland also implemented changes in school curricula. After years of complaints of overly broad and prescriptive curricula and disputes about possible ways forward, the decision was made to implement a concept of core curricula. The concept aimed to provide schools with extensive scope for autonomy and responsibility; schools were asked to build their own curricula, within a pre-determined general framework, while balancing three dimensions of education: **acquiring knowledge**, **developing skills**, and **shaping attitudes**. The reform of the curricula was designed not only to bring about change in the content of school education but, more significantly, change the teaching philosophy and improve the professional culture of schools.

Analysis of Results through PISA

Concurrent with introducing its package of educational reforms, Poland decided to participate in the upcoming 2000 PISA test. PISA can be used as a tool to assess the overall quality of education, since it is a standardized test that can be compared over time and against other countries. It is a test given to students that measures their proficiency in reading, math and science. Poland has now participated in three rounds of PISA - in 2000, 2003 and 2006.

Methodology

In order to assess the results of the educational reforms, Polish students' PISA scores were tracked over time and also compared to other peer countries. Sub-groups of students were also identified (such as those attending vocational schools) and their scores were also analyzed. The sample consisted of three cohorts of 9th grade (age 15) students from all across Poland who took the PISA tests in 2000, 2003 and 2006. The students were representative of the entire cross-section of students, including those that would be placed in academic schools and those that would join vocational schools. It is important to note, however, that the age cohorts covered by PISA in 2000, 2003 and 2006 were affected by the introduction of the educational reforms in different ways (see Figure 1). The first group of 9th grade students who took the PISA test in 2000 was not affected by the reforms. The group that was 15 years of age in 2003 and was covered by the second cycle of PISA started their education in primary school in the former system but attended the *gymnasium*, which was part of the new structure (the flagship of the reform). Finally, the group covered by PISA 2006 had attended the reformed schools.

Results

Overall, Poland registered substantial gains in PISA scores over time, rising from 470 points in 2000, to 490 in 2003, and again to 495 in 2006. As shown in Figure 2, Poland's reading score improved in a similar manner - from 479 in 2000, to 490 in 2003, to 508 in 2006. Poland's reading score was below the OECD average in 2000, at the OECD average in 2003, and above the OECD average in 2006, ranking 9th among all countries in the world.

The improvement in Poland's PISA scores was also greater and more consistent than that of other peer countries. Of the five transitional countries in Eastern Europe, only Poland was able to improve its reading score consistently between the 2000 and 2006 time period. The Czech Republic, Hungary and Russia all had flat to slightly lower reading scores over time, while Latvia was able to improve its score from 2000 to 2003 but had a significant decline in 2006.

With regard to the factors responsible for the improvement, the delayed tracking into vocational streams appears to be the most critical factor. On the whole, the improvement in PISA scores for 15-year-olds in Poland was 16 to 18 points from 2000 to 2003, and about 35 points from 2000 to 2006. Analysis of the data showed that the score improvement for the sub-group of 15-year-olds that would have been placed in vocational programs before the reform was particularly high. Their scores improved over 100 points from 2000 to 2003, and over 120 points from 2003 to 2006. This was equal to an improvement of over one standard deviation.

Poland's overall improvement in reading was also associated with a greater number of hours spent on language instruction for all students. In 2000, only 1% of Polish students received more than four hours of language class, while in 2006, 76% of students received more than four hours of language class. The increase in hours of instruction was modeled to explain 48.8% of the total test score improvement. This was much more important than the most important personal characteristic, having a computer at home, which explained 17.1% of the total test score improvement.

4 World Bank (2005). "Expanding Opportunities and Building Competencies for Young People - A New Agenda for Secondary Education", Directions in Development Series, World Bank, Washington, D.C.

Figure 2: PISA Results in Reading - Top Ten Countries' Performance over Time

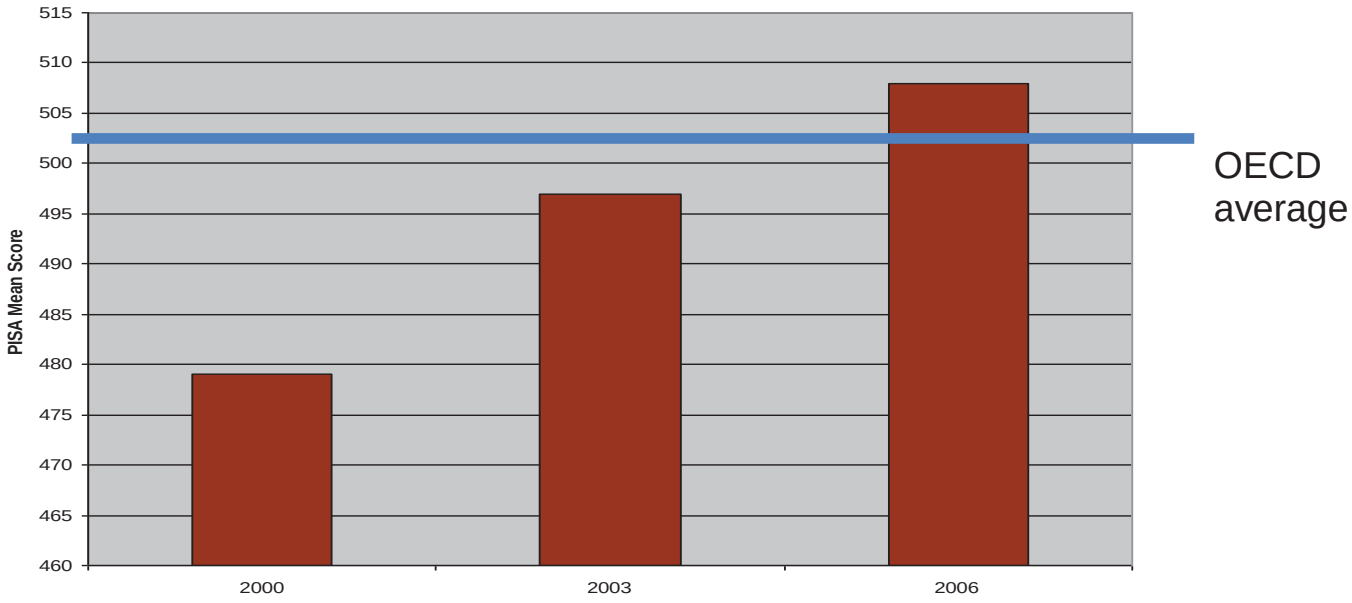


Table 1: Top 10 Reading over Time, PISA

	2000		2003		2006	
1	Finland	549	Finland	543	Korea	556
2	Netherlands	537	Korea	534	Finland	547
3	Canada	535	Canada	528	Hong Kong	536
4	Hong Kong	532	Australia	525	Canada	527
5	Australia	528	Liechtenstein	525	New Zealand	521
6	Ireland	528	New Zealand	522	Ireland	517
7	New Zealand	526	Ireland	515	Australia	513
8	Japan	525	Sweden	514	Liechtenstein	510
9	United Kingdom	524	Netherlands	513	Poland	508
10	Korea	522	Hong Kong	510	Sweden	507

Source: OECD PISA results for 2000, 2003, and 2006

Conclusion

The changes introduced through Poland's educational reforms in 1999 boosted the academic performance of the country's students on the standardized PISA test. The restructuring of the basic cycle of education and postponement of students joining the vocational stream by 1 year played a central role in students' test scores improvement. Another significant factor contributing to improved performance was the increased hours spent on language instruction for all students.

About the Authors

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