

**REVIEW ARTICLE**

## International Comparison Tests and Transformation of National Education Policies: A Critical Perspective

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**Submitted:** 09.06.2020

**Revision Requested:** 25.06.2020

**Revision Received:** 29.06.2020

**Published Online:** 05.09.2020

**Citation:** Yıldız, S. (2020). International comparison tests and transformation of national education policies: A critical perspective. *Political Economy and Management of Education*, (1)1, 56 - 70.

**Abstract**

The demand for international comparison exams and their importance in the education policy agenda are increasing day by day. These examinations effectively generate references and justifications for educational policies in the transformation of global education and reforms in the education systems of countries. In the literature, it is possible to find many studies that examine the effects of these exams and both support and criticize these applications. In this study, examples are given in the context of the literature on the effects of international comparison exams on the education policies of countries; Criticism of the reforms made based on both the comparison tests and the results of these tests were mentioned. Finally, recommendations have been made for the implementation of these exams and changes in national education policy. As a result, the creation of an education system that focuses on standardized tests causes irreparable harm to students and educators. Neglecting differences and local values and evaluating the education system only with multiple choice tests lead to negative consequences in societies. Seeing the effects of the reforms in a short time causes doubts; media produces destructive and exaggerated discourses about education systems.

**Keywords:** *International exams, PISA, TIMSS, PIRLS, education Policy.*

## Introduction

The results of the international comparison exams were seen as one of the reasons for the education reforms in many countries, and the results created a "shock" effect for some countries, leading to inquiries about the education systems and education policies of the countries.

International comparison tests have aims such as increasing accountability in education, enhancing democracy and human rights, and accelerating the efforts of countries to integrate into the modern world (Kamens ve McNeely,2010), standardizing measurement methods (Rochex, 2006), building an education system that supports global economy (Aypay, 2015), making educational reforms based on exam results and justifying these reforms (Grek, 2009), and making education services a global marketplace (Lingard, 2013).

International exams are used as a tool to convince countries to make education reform in line with the demands of the global economy (Morrow ve Torres, 2000), to advocate new policies and reforms (Białecki ve dig.,2017), to transfer educational reforms from other countries (Feniger ve Lefstein, 2014), and to shape educational reforms (Taylor ve Henry, 2007).

Transnational actors and their testing practices are highly influential in today's educational policy changes. International exams are encouraged by global actors, it is aimed to standardize education systems based on comparisons between countries and to create a global education curriculum. (Aypay, 2015; Rochex, 2006; Wiczorek et. al. 2020).

To reveal the effects of international organizations and international comparison tests on the education policies of countries, the education reforms made and the outputs of these reforms can enable us to reveal the motivations of these reforms, the positive and negative effects of the reforms, and to evaluate the education policies for the future. In this study, it is aimed to reveal the effects of international comparison exams, whose effect is expected to increase more in the coming years, on education policies and education reforms, and the criticism of these practices, with examples in the context of the literature and to make some suggestions for the actors who are effective in the development of education policies. Revealing the changes and negative effects of international comparison exams on national education policies and education staff can contribute to the multi-faceted development of students, the creation of a more efficient classroom environment for teachers and students, and the development of more humane education policies..

### **International Organizations and Exams Effective in Education Policies**

In the historical process, many international organizations and non-governmental organizations have supported evaluation initiatives that produce data about the education systems of countries. Until 1980, an important pool of organizations consisting of various non-governmental organizations and international organizations was formed that encouraged the evaluation of education systems at both regional and international levels based on such tests. These organizations helped spread testing and evaluation norms, models and techniques; has produced pressure on countries and policy makers to evaluate and test. Today, many international organizations and foundations require such evaluations based on international comparisons for loans, donations and other supports (Kamens, McNeely, 2010). Countries tend to participate in

international benchmarks, both to avoid pressure from supranational institutions and to win their support.

The transformation experienced in the global economic system after 1980 has increased the need for evaluating education systems with success tests. With globalization, the need to direct and justify policies based on results and performance measures has increased and the demands from countries to meet this need have started to rise (Grek, 2009). These international comparative tests have important effects on politicians, media and the public (Feniger ve Lefstein, 2014). These effects have forced the policy makers of national governments to search for new policies and to make reforms based on other countries.

The purpose of international comparative statistics is to evaluate the productivity of education systems with macroeconomic indicators and to transform the national education policy in line with the data obtained. Therefore, a macro variable that measures the educational performance of countries should be designed (Bonnet, 2002). In addition, national indicators of the effectiveness of education systems attract the attention of policy makers not only in the country but also in other countries.

The fact that education services are an area of investment needed for the development of human capital and the results of education systems being accepted as a success indicator for the national economy cause policy makers to show interest in international comparative indicators (Bonnet, 2002). Lingard (2013) states that education is accepted as a global market with rapidly increasing revenues, while McKinsey states that the global education market will reach a size of 8 trillion dollars in 2020. (Cited by Wieczorek et al, 2020 from McKinsey / GSMA 2012). Both the economic value of education services of this magnitude and its direct impact on the economy increase the desire of global actors to intervene in the education systems of countries.

### **International Organizations**

Today, the influence of international economic actors on education policies is increasing. Global actors such as the European Union, the World Trade Organization, the World Bank, the Organization for Economic Cooperation and Development (OECD) are closely interested in the educational outcomes of countries and indirectly influence these policies. Organizations such as the International Labor Organization (ILO), the United Nations Development Program (UNDP), the United Nations Children's Aid Organization (UNICEF), which do not have economic objectives, are also influential on education policies (Güner ve dig., 2014). Smith (2013) stated that organizations operating on a global scale try to transform societies according to neoliberal ideal and use the concepts of democracy and freedom of consumption in the construction of the economic market. Social changes that need to be achieved through education are needed in the realization of this economic goal.

Over time, international assessments have become a prerequisite for lending to low-income countries by institutions such as the International Monetary Fund (IMF) and the World Bank (Kamens, McNeely, 2010). Qualitative and quantitative data on the outcomes of education systems of organizations such as the International Association for the Evaluation of Achievements in Education (IEA), the European Union, the European Community Statistics Office (EUROSTAT), the European Commission (EURYDICE) are widely used in education policy discussions (Bonnet,

2002). Therefore, educational policies are influenced not only by organizations with economic objectives but also by organizations that do not have an economic mission.

One of the most important organizations serving the need for international education indicators is OECD (The Organization For Economic Co-Operations And Development). Over the past few decades, the OECD has been one of the most active and influential players in the global arena. This organization, which initially worked on the economy and development sector, has had a comprehensive and inclusive effect on education all over the world. The OECD plays an important role in shaping education policies for the development of "best practices" around the world (Huang ve Kan, 2020). OECD education management reforms are one of the important actors in global education policy changes with tests such as PISA (Program for International Student Assessment) (Wieczorek et al. 2020). Management based on numbers and comparable data has led major international organizations such as the OECD to enter the education sector and provide these data to national governments (Crossley, 2014). Today, the data produced by the OECD is one of the reasons for many education reforms and affect education policy transfers between countries.

The OECD is an important part of the global education sector and the global policy network that provides education reform and policy advice (Wieczorek et al. 2020). The most important method used by the OECD in transforming global education is the achievement tests that present data sets based on the comparison of education systems between countries. In addition, OECD publishes the education indicators of member countries comparatively with its "Education at Glance" report. This publication also has a significant impact on policy makers, researchers and educators (Aypay, 2015). Collaborating among actors such as companies, philanthropic organizations, consulting agencies and think tanks in order to realize the desired reforms in national education systems, the OECD also tries to protect these institutions (Wieczorek et al. 2020). Therefore, OECD directs education policies not only with success tests but also with other pressure tools.

The subject of values is one of the most discussed issues regarding the effects of OECD on education policies. Because the standardization of central exams and education systems can lead to differences in teaching social values. Taylor and Henry (2007) state that who should be taught which values in educational institutions and what will be the source of dominant teachings cause debates within the nation-state, and these discussions are especially focused on determining the focus of education policies and the underlying values of these policies. Both determination of acceptable values to be taught and standardization of the curriculum can lead to neglect of individual and social differences and value conflict in the development of educational policies.

International education evaluations can take place not only among developed countries but also among under developed countries. For example, the Dominican Republic conducted a long-term evaluation project with the help of the Educational Evaluation Research Consortium and with funding from the US Agency for International Development (USAID), while Latin American and African countries also conducted various educational evaluations with regional evaluation programs funded by UNESCO (Kamens, McNeely, 2010). Therefore, it is possible to say that more countries may demand evaluation of their education systems in the near future.

## International Comparison Exams

In this study, three important achievement tests that many countries participated in on a global scale among international comparison tests were discussed. These three tests, which have an impact on educational policies, are the International Student Assessment Program (PISA), the International Mathematics and Science Trends Survey (TIMSS), and Progress in International Reading Literacy Study (PIRLS).

PISA is an exam conducted by the OECD to evaluate the extent to which students under the age of 15 have acquired the knowledge and skills needed for social integration. PISA evaluates student competencies in the fields of reading, mathematics and science over three years. Using data from other education stakeholders, student, family and institutional factors that can help explain performance differences are revealed (OECD 2007a). PISA reveals what countries are doing to support students, enabling countries to learn collaboratively (OECD, 2018). The basic idea of PISA is to directly test students' knowledge and skills with an international measurement; to try to understand performance differences with the data obtained from students, teachers, schools and systems and to develop a cooperation based on common reference points and peer pressure based on that data. One of the aims of PISA is to enable schools and policy makers to look towards the next teacher, the next school, the next country, based on their education systems. PISA assumes the information that is important in the world and makes it accessible to educators and policy makers, allowing them to make more informed decisions. PISA measures students' ability to reproduce information, learn to learn, and adapt their knowledge to new situations by transferring them to daily life (OECD, 2018). Feniger and Lefstein (2014) state that the basic assumption of PISA is that international differences in students' performances may affect the education systems and education policies of countries.

The interest of politicians and the media on the comparative data provided by PISA about national education systems is increasing (Grek, 2009). Bialecki et al. (2017) stated that the PISA results are a useful and reliable tool for experts and policy makers to measure the effects of sequential reforms in the education system. Figazzolo (2009), on the other hand, stated that many countries reorganize their education systems based on PISA results or taking the status of other countries in PISA as a reference.

TIMSS and PIRLS is a program of the International Association for the Evaluation of Educational Achievement (IEA), which has been operating since 1959. TIMSS aims to monitor the educational activity of approximately 70 countries. With this exam, it is aimed to measure the basic skills in the fields of science, technology, mathematics and engineering, commonly known as STEM (Mullis & Martin, 2017). TIMSS measures the performances of 4th and 8th grade students in mathematics and science fields in four-year periods. This exam also collects various data about schools, teachers and students. With the data obtained, it is determined how science and mathematics education is carried out in schools and the differences between the education systems of countries are evaluated (MEB, 2015).

TIMSS has a three-way curriculum model in the form of the intended curriculum, the applied curriculum and the curriculum obtained. Approximately half of the countries participating in TIMSS 2019 are targeted to make the evaluation via computer. With this application called e-TIMSS, real world and laboratory situations are simulated in line with the area the exam aims to measure (Mullis & Martin, 2017).

PIRLS, on the other hand, is an exam that has been applied every five years since 2001 and measures the reading skills of 4th grade students. With PIRLS, trends in students' reading achievement are revealed and data are provided for families, schools, teachers and countries. It makes policy recommendations to improve learning and teaching based on the data obtained. With PIRLS 2021, it is aimed to make evaluations in digital environment (Mullis et al., 2015). Therefore, it is possible to say that TIMSS and PIRLS will occupy more place in the agenda of education policies with the support of technology in the coming years.

Achievement test practices of international organizations directly or indirectly affect many actors that are effective in the development of education policy. The results of these transnational tests influence actors such as publishers, researchers, education economists, non-governmental organizations and investors, and with generous donations from some foundations, they force them to take part in policy changes to implement desired education reforms (Lewis 2017). These policy changes occur especially through the transformation of the educational curricula of participating countries. These exams aim to make the educational content of the countries similar and to create a global curriculum (Aypay, 2015). The application methods of international achievement tests, which are the most important policy tools of global actors, are diversifying and thus it is easier for these tests to reach their goals.

### **A Critical Perspective on International Comparison Exams**

International achievement tests such as PISA, TIMSS, PIRLS can affect national education policies directly or indirectly. The results of international comparison tests have increased interest in global education policy debates and, based on the data of exams such as PISA, countries have started to examine the education systems of different countries in order to develop their own education systems and encourage reform movements (Sellar, et al., 2017 as cited in Davis et al. ., 2020).

For many years, the motivation of national and international evaluations of education system by national governments has been to increase the quality and cost-effectiveness of t education service and allow public accountability. Later, cross-country comparisons gained particular importance (Bonnet, 2002). In addition, governments can use the data provided by international tests as quality assurance of their countries' education services (Addey 2018). Therefore, the results of these tests create important reasons for policy makers in the realization of education reforms.

Countries must first be convinced of the need to reform their education systems in order to achieve social change through education reforms. Countries can be convinced with the higher education scores of developed countries. Morrow and Torres (2000) state that international comparison tests serve as a tool for realizing reforms towards the demands of the global economy and persuading countries to these reforms.

The increasing use of tests in both national and international evaluation is part of the international movement that aims to rationalize and standardize national education systems (Kamens, McNeely, 2010). Policy elites aim at a higher level of integration into the world education system, with international comparisons based on modern educational ideas such as testing and national evaluation. Therefore, by accepting these practices, national policy elites want to be more

involved in the world administration and to benefit more from benefits such as aid and credit (Boli and Thomas as cited in 1999. Kamens and McNeely, 2010).

The fact that PISA has become an indispensable standard tool for evaluating education systems around the world has led to debates on the role of governments and public services (Breakspear, 2014). Because PISA is particularly effective in evaluating the effectiveness of national benchmarking and education reforms (Crossley, 2014; Grek, 2009), it is decisive in defining both global and national education policy problems and setting the policy agenda (Stray, & Wood, 2020). In the domestic policy of countries, exams such as PISA are used to advocate reforms made by experts, researchers and policy makers, to develop students' core competencies and to transfer new policies that appear successful in other countries (Białecki et al., 2017). These reasons cause exams such as PISA to affect the education policies of governments and to be a reference to reform quests.

Another reason why international exams are effective at the level of national governments is the change in management style with globalization. Grek (2009) states that the growth of knowledge-based economies is effective in this process. The support of the form of global governance (Rizvi & Lingard, 2006), which advocates the liberation of state structures in order to ensure effective policy change on a global scale and to delegate responsibilities to non-state bodies by the OECD, is another reason for the international comparison exams to gain importance.

With the importance of PISA, the tendency to imitate reference countries has increased. Finland's high performing PISA results in particular have led to a global attraction to the Finnish education system (Steiner-Khamsi, 2006). Feniger and Lefstein (2014) stated that many journalists, politicians and educators advocate that less successful countries should learn and imitate policies developed by the best performing school systems, and that policy makers sometimes directly adopt the ideas of high-performing education systems based on PISA results. They also emphasized that sometimes these tests are used to justify the necessity of the reforms wanted to be made. In short, tests such as PISA provide reasons for high-performing countries to be taken as reference by low-performing countries, even if their social structures are different.

## **Media**

Media is an effective tool in the development of national education policies. Using exaggerated rhetoric from time to time, the media brings the education reforms demanded by international organizations to the agenda and creates pressure on education policy actors to ensure the realization of the reforms. Bakioglu and Korumaz (2019) state that the media is an unofficial policy actor and acts as a control mechanism, such as setting the agenda, informing the public about government policies, and sometimes policy actors can use the media as a tool to persuade communities. Wallace (1993), on the other hand, states that the media play an exploitative role in educational policies by highlighting certain myths and making counter myths mocked. It is possible to find the use of these myths in media reports that use achievement tests such as PISA to highlight the need for education reform by guiding the public (Yemini and Gordon 2017).

OECD also states that the media's interest in international exams is increasing. In particular, the comparative statistical data produced by PISA is met with great interest in the world media (OECD 2007a). The results of PISA on the media play a very important role in shaping the

education policy agendas of countries (Davis et al., 2020). Takayama (2009) states that in countries such as Germany, Japan and Israel, the results of international exams and education reforms are legitimized through the media.

In their study by Martens and Niemann (2010) by analyzing newspapers, it was found that more than 250 media articles related to PISA results were included in national daily newspapers in Germany between 2001 and 2008 alone. Takayama, Waldow and Sung (2013) and Davis et al. (2020) found that the dominant discourse in the media in Australia, Germany and South Korea emphasizes the exemplary Finnish education system and its PISA success in these countries. Turkish media also uses PISA results in order to highlight Turkish students' poor results compared to other countries (Gür et al, 2012). Media discourses such as "PISA Shock" in Germany and "A Nation at Risk" in the USA enabled the grades in international exams to be presented as a shock to the society and these discourses led to pressure on governments (Feniger, Livneh and Yogev , 2012). In addition, the media produces a false perception in the society that the success of education systems, schools, students and teachers is revealed by international comparison exams (Sjøberg, 2007). Camara and Shaw (2012) and Thomas (2003) state that newspaper headlines mostly include negative narratives about education systems.

### **Examples of the Effects of International Exams on National Education Policies**

The results of international exams have opened the education systems to discussion in many countries and countries have had to make reforms to make their education systems more successful in these exams by comparing their exam results with other countries. This section includes changes in education systems in some countries based on the results of international exams.

In three areas tested with the first PISA report published in Germany in 2001, it was revealed that the performance of German students was significantly below the OECD average (Baumert, Stanat and Demmrich 2001). After this "PISA shock" experienced in 2001, serious inquiries began about the education system (Knodel et al., 2013). Odendahl (2017) stated that Germany's being at the bottom of the general ranking according to the 2001 PISA results was a huge blow to the self-esteem of Germans and caused a newspaper to make the headline "A Disaster in Almost Every Way"; He states that the failure in the exam is caused by the wrong policies applied in the education system of the country.

A series of reforms have been made in Germany after the negative results of PISA 2000. In 2002, a central institution was established to bring and monitor training standards (Nieke 2003 as cited. Knodel et al., 2013). Arguments obtained from an internationally recognized institution outside the country caused the demands for education based on economic reasoning to be brought to the agenda by political actors, interest groups and non-governmental organizations within the country. OECD's programs have led to changes in the evaluation of school performances in Germany and schools have started to be evaluated with similar measurement tools used by OECD in the country (Knodel et al., 2013).

The fact that the results of PISA 2012 exceeded the OECD average enabled German politicians to make positive evaluations about the reform process and to define the reason for the success as the reforms made for the negative results in PISA 2000 (Ringarp, 2016). While social cohesion ideas



such as democratic values are dominant in the German education system, the ideas of competition and performance have gained importance with the results of PISA. In particular, the OECD has been very effective in spreading the understanding of economic education in German secondary education and has affected the reforms in German secondary education policy by creating an unofficial pressure. Some German policy makers stated that OECD's understanding of education is a basic precondition for economic welfare and in this sense, PISA represents best practices (Knodel et al., 2013).

The international tests have been used to support a detailed review of the education system in France and a comprehensive education reform. The fact that adult literacy in France is quite low compared to other countries has led to deep debates in the French society, and some politicians even claimed that these findings were not true. Similarly, the performance in literacy, mathematics and science in PISA, which was around the OECD average, led to questioning of educational policies (Mons & Pons, 2010). Following PISA 2009, the ministry of education prepared an action plan to reorganize the primary education curriculum and personalize teaching to improve the decline in literacy rates and help students with low achievement levels (Baird et al., 2011).

The evaluation made by the IEA in the UK in 1999 showed that the education system in the country is below the average and has weaknesses when compared with other countries (Mullis et al. 2000). However, PISA conducted in 2001 showed that England's averages were good. In the PISA conducted in 2006, the scores fell below the average. However, the decrease in the scores did not cause panic in the society, and the low scores reduced the interest of the society and policy makers in international comparison tests. Some educators even considered PISA only as a workload. Therefore, there has been no serious reform attempt in the UK based on PISA scores. One of the reasons for this is that OECD's education understanding is relatively compatible with the British education understanding (Knodel et al., 2013).

While the discourse that the Swedish education system was a model for other countries was dominant in Sweden until the mid-2000s, this discourse was weakened based on the results of international comparison exams. After 2000, authorities first visited Scandinavian countries such as Finland, then South Korea and Canada, to study other countries and make policy changes to improve the status of the teaching profession and teacher qualifications. With the amendment to the law in 2010, the certification of teachers was rearranged and some reforms were made, especially with Finland reference (Ringarp, 2016).

The performance of Canada's PISA results above the OECD's average was welcomed by the media. However, there have been various criticisms in the media for students from different social backgrounds and the differences in achievement between different states. In Canada, PISA results have been used to evaluate the outputs of government's education investments and to highlight the quality of the workforce trained in schools (Knighton et al., 2010). International tests influenced the perception of educational policy in Poland and led to the abandonment of an ideology-driven, centralized policy. Since 2015, previous education reforms have been reversed and secondary schools introduced in 1999 have been abolished, school and local government autonomy has been limited, and a new national curriculum focused on knowledge acquisition has been proposed (Białecki et al., 2017).

The fact that the PISA results in Norway in 2000 and 2003 were below the OECD average created a "shock" in the country for the education system that the government spent generously,

and the Norwegian government used these results as a leverage to improve the education system and curriculum. After the "PISA Shock", the Norwegian Ministry of Education implemented a number of education reforms based on international benchmark tests (Baird et al., 2011). Norwegian politicians established a working group in 2006 and made a change in the curriculum focusing on basic skills based on PISA objectives and described this as a very important education policy reform (Stray & Wood, 2020). Although scores increased in 2009, exams such as PISA continued to be used as a political tool for the need for continuous improvement and education reform (Baird et al., 2011).

Education policy developers in New Zealand conducted a series of studies focusing on low performance based on ethnic elements in PISA results. The study focused on the success of countries such as Finland, Singapore and South Korea in PISA and reforms were made in this direction (Stray, & Wood, 2020). Similarly, various reforms have been made in Switzerland according to the results of international exams. With these reforms, it is aimed to harmonize the structure, curriculum and standards of the education system in regions where different languages are spoken and throughout the country, and to prepare the education system regionally and nationally for the future (Baird et al., 2011).

Shanghai used PISA to measure the success of students at compulsory education level and to understand the learning abilities of students with an international comparative system. Politicians in the country have used the country's scores in PISA as a criticism that education in Shanghai produces inequalities. In addition, the fact that the results are above the OECD average has been used politically to support the claim that the Shanghai education system is better (Baird et al., 2011). Denmark has switched to a new test system with the effect of PISA, although it conflicts with the values in the traditional Danish school system (Dolin and Krogh 2010). Turkish government officials have also used national PISA results to justify calls for a comprehensive reform of the Turkish education system (Gür et al., 2012).

As can be seen from these examples, PISA is one of the most important exams that affect the education reforms of countries. PISA has raised serious debates on restructuring education systems in many countries, and many countries have reorganized their education systems based on or reference to PISA results (Feniger & Lefstein, 2014; Figazzolo 2009). OECD (2018) states that while policy makers make difficult decisions, PISA supports them with evidence and this exam reduces the cost of political action. The fact that exams such as PISA provide persuasive data to the rationale for policy change decisions has been a supporter of education reforms.

## **Discussion**

International exams are becoming increasingly important for countries. These exams have effects on future educational policy changes at both national and global levels. Depending on the increase in international standardization, it is possible that new assessment areas will emerge, the skills that students are expected to specialize in will change or diversify, and the demands for assessment will increase to cover other education levels.

International achievement tests constitute an important reference for the education reforms of countries. However, making reforms based solely on exam results may have some negative consequences. While making changes in education policies, it is necessary to consider the effects of

achievement tests that impoverish the educational content, limit the curriculum and teachers, and increase the stress level of students. It should be kept in mind that an education system that focuses on standardized tests can turn learning into a workload and destroy the desire to learn. Again, as a narrow and biased criterion, reforms based on the result of an achievement test may lead to neglecting other areas of education that cannot be measured by exams, ignoring various cultural characteristics and traditions while measuring, and causing irreparable harm to schools and students. Downey et al. (2008) stated that the greatest differences in exam results are related to democracy problems in countries such as access and equality, and stated that evaluations and comparisons should contribute to the production of models that will be exemplary for schools and teachers. It is also remarkable that the effects of structural changes made by countries based on the results of international comparison tests are remarkable (Białecki et al., 2017; Dolin & Krogh 2010; Knodel et al., 2013; Ringarp, 2016; Stray, & Wood, 2020). However, education policy developers need to take into account that the effects of changes in education reforms emerge after many years.

The changes that the OECD wants to be made in education policies include increasing privatization and localization in education, determining the educational objectives and curriculum by central institutions and evaluating the educational outcomes with central examinations (Aypay, 2015). However, it is important that the educational reforms to be made highlight the development, welfare and happiness of students and teachers and that the priority in these reforms is to create a more livable and humane life. Again, announcing the test results by minimizing the destructive effects caused by the media; It is also important to rearrange the achievement tests in line with the criticism and to add different components to the evaluation results.

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