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How Do Large-Scale Assessments Affect Mother Tongue Lessons?

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Abstract

The concept of large-scale assessment has long been on the concern of the education system worldwide. PISA, which is one of the large-scale international assessment, has been administered in a number of countries worldwide since 2000. When PISA was first launched, there was an "unconditional acceptance" of this new application worldwide, whereas studies conducted in recent years show that all positive and negative effects of PISA are open to discussion and these discussions are increasing in number. Taking these as a starting point, the present research aimed to determine mother tongue teachers' views on PISA tests. Aiming to reveal how the changes created by the universal effect of PISA in language education are perceived and handled by teachers, this study was carried out with the relational survey method. The obtained categorical data were analyzed by frequency analysis and logistic regression. The study group consists of 98 teachers teaching mother tongue. In this research conducted to determine mother tongue teachers' views on PISA tests, teachers stated that PISA was effective in developing higher-order thinking skills in mother tongue lessons. In addition, according to teachers' opinions, PISA affects the assessment and evaluation process the most among the learning and teaching processes. According to the other findings, teachers stated that the question types in national tests changed based on PISA and they partially approved of this change. Also, they thought that PISA reading questions were incompatible with Turkey's education system, and they found Turkey's rise in the latest PISA reading skills ranking significant.

Keywords: large assessment, mother tongue education, PISA, cultural affect

Introduction

The concept of large-scale assessment has long been on the concern of the education system worldwide. PISA (The Program for International Student Assessment), which is one of the large-scale international assessment, has been administered in a number of countries worldwide since 2000. Launched for the first time by the Organization for Economic Cooperation and Development in 1999, PISA is conducted to measure 15-year-old students' knowledge and skills in the domains of reading, mathematics, and science (Organization for Economic Cooperation and Development, 2000: 3). It is implemented every three years and in each cycle, one of the mentioned domains becomes the focus. It was conducted with the participation of 43 countries and economies in 2000, 41 in 2003, 57 in 2006, 65 in 2009 and 2012, 72 in 2015, and 79 in 2018. Creative problem-solving was the main domain in PISA 2012, collaborative problem-solving in PISA 2015, global competencies in PISA 2018, and creative thinking skills in PISA 2022 (Turkish Ministry of National Education, 2022). About eighty countries participated in PISA 2018. This number is expected to double by 2030. In this case, students from more than 80% of the countries may sit PISA tests (Piro, 2019). In this respect, and considering the number of countries and students reached, PISA has an important place in education worldwide.

The purpose of large-scale international assessments such as PISA is to allow countries to compare their own education systems with those of other countries. The obtained data, in turn, enables countries to realize their strengths and weaknesses in the field of education and to strive for improvement in education. On the other hand, unlike other general assessments, PISA, rather than providing a snapshot of countries' performance in PISA, produces detailed analyses for countries that relate school practices, financing models, and policies with their performance (Gorur, 2006).

It is possible to say that since its first administration, PISA has had a significant impact on the world for two decades. PISA is extensively studied by educational researchers all over the world, thus influencing academic research as well. We can often come across research on PISA in important databases. Since 2002, research on PISA has increased rapidly, and the results have led to changes in the education policies of countries. The number of studies conducted in countries that prioritize research on PISA is, indeed, an indicator of

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improvement in education. In this context, the five countries that published the most articles on PISA are the USA (114), Australia (72), Germany (69), England (52), and Ireland (31) (Hopfenbeck et al., 2018).

When PISA was first launched, there was an "unconditional acceptance" of this new application worldwide, whereas studies conducted in recent years show that all positive and negative effects of PISA are open to discussion and these discussions are increasing in number. In this respect, the economic link of PISA with the OECD, its basic education views, the way it is applied, the way the results are assessed, and its impact on global and national education policies have been discussed in various studies (Hopfenbeck et al., 2018; Piro, 2019; Zhao, 2020; Sellar and Lingard, 2013; Bieber & Martens, 2011; Takayama, 2008).

Similarly, the PISA results and the rankings obtained in recent years in European countries have also led to various discussions (Ringarp & Rothland, 2010; Białecki, Jakubowski, & Wiśniewski, 2017). Germany is one of the countries where these discussions are most intense. The publication of the results of PISA, which was conducted for the first time in Germany, created a *'Tsunami-like effect'* (Gruber, 2006: 195) in the country, which was reflected in the literature as Germany's *"PISA shock"* (Hyökki, 2018; Ertl, 2006). In many countries, PISA is causing the *"PISA panic,"* the idea that a country's education is in a deep crisis (Piro, 2019) and is calling for an urgent policy change (Pizmony-Levy, 2018). Ertl (2006) stated that these results caused shock waves in Germany's national education and that PISA affected the political discourses, curriculum development processes, and academic discourses on education in Germany. So much so that Germany's PISA shock made it the focus of research on PISA in Germany in the worldwide literature in the following years (Hopfenbeck et al., 2018).

Overall, PISA's effective role in national education policies is based on the premise that PISA tests are reliable and valid tools; therefore, this premise provides an international comparison of student performances. However, studies in the literature have shown that many factors (such as translation, item content, educational content differences, exam motivation or exam anxiety, writing system, and culture) affect measurement equivalence in the international comparison of student performances (Bağdu Söyler et al., 2021). Indeed, the evaluation of the equivalence of items adapted to different cultures and languages can often be overlooked in comparative studies (Avvisati et al., 2019). For example, PISA tests are held under the assumption that the items translated into different languages are understood by the participants to the same degree and in the same way, but the research by Oz (2021) shows that the equivalence of the items is not always ensured. Similarly, Masri et al. (2016) discussed PISA in terms of language and translation, Kankaraš and Moors (2014) in terms of cross-cultural comparability of test instruments, and Rutkowski and Rutkowski (2016) in terms of measurement invariance between countries. Furthermore, whether the samples selected in countries reflect reality has also been discussed (Spaull, 2018). Anders et al. (2020) discussed which children sat the PISA 2015 in Canada, how children with educational needs were defined and their inclusion in the research, differences in school participation rates, and the situation of absent students, and, at the end of their discussion, they argued that Canada was not a pioneer in education, contrary to PISA results. In other words, the population definitions of the countries participating in the assessment, schooling rates, schools excluded from the assessment, and which students and schools are included in the assessment (Anders et al., 2020) are among the topics discussed related to PISA. By attracting public attention to PISA results and provoking public debates about education quality, OECD aims to influence national education policies (Hopfenbeck & Gürgen, 2017). Undoubtedly, PISA provides a rich and diverse dataset, but it should be noted that the obtained results always depend on the methodology and assessment design used (Lafontaine & Monseur, 2009). In addition, it should not be forgotten that PISA emphasizes the cognitive dimension of the skills that it focuses on, but that education is much more than that. Moreover, it should be emphasized that PISA is not an institution affiliated with the United Nations, such as UNICEF or UNESCO, working for the education/training and rights of children and that it does not have legitimate authority.

Considering the discussions and evaluations in the literature, it is underlined that the political, economic, social, and cultural differences between the countries participating in the PISA cause various problems that directly or indirectly affect the results. Tillmann et al. (2008) state that countries use PISA results not only to solve educational problems but also to reveal the permanence and success of the current administration and power, and in this case, the way the data produced by PISA is politically processed changes depending on the success in education policies. According to Gorur (2016), PISA aims to create a kind of *'standardized school system'* with the obtained data and policy guidance recommendations. By providing specific content and methods, PISA limits teachers' autonomy and experimentation, hinders the progress of education, and leads to the *'McDonaldization'* of teaching. Most importantly, it makes education standardized, decontextualized, and portable. According to Carvalho and Costa (2015), PISA, as a political tool, first shows countries their weaknesses, then makes change a need, and justifies the actions it deems necessary to meet these needs, using a universal, independent, and scientific basis. In other words, by assuming the role of a *"global referee,"* PISA freely comments on and evaluates the education systems of the countries. In this case, it is necessary to question the situations caused by ignoring the cultural differences that shape the education

system of the countries. According to Masemann (2013) from a global perspective, the process of ethnographic examination of education cannot be carried out without addressing the cultural content of the form of educational transmission.

PISA and Teachers

PISA results not only cause many educational and political reforms in the participating countries but also significantly affect teachers who are direct implementers of education. It is known that in these reforms, teachers assume the role of *"intermediaries"* between official changes and daily practices or *"communicators"* between the government and students (Ioannidou et al., 2017).

A study in which Turkish teachers also participated found that teachers' perceptions of their values in society had a significant relationship with their PISA scores. Accordingly, teachers in countries with higher PISA scores feel that their work is valued more by society (Spruyt, Van Droogenbroeck, Van Den Borr, Emery, Keppens, & Siongers, 2021). Furthermore, in countries that tend to use the PISA ranking as a political factor, the responsibility for poor performance being placed on the teacher rather than the system causes teacher anxiety towards these practices. Teachers working in schools with a socially disadvantaged background or in overcrowded schools, or in countries with poor academic performance, as stated by OECD, an authorized organization, are generally seen as *"responsible"* by the public (Dolton et al., 2018). Smith (1991) argues that the publication of test scores in such tests leads to feelings of shame, embarrassment, guilt, and anger in teachers, as well as a determination to do what is necessary to avoid such feelings in the future. Indeed, recently, it is seen that teachers have adopted the *"teaching of question-solving strategies"* for PISA-type questions rather than teaching the course content. Berger (2006) states that these tests, the results of which are considered very important, have changed teachers' teaching styles and the content they cover in their classes.

This being the case, teachers need to be prepared for this type of assessment both cognitively and affectively. It is necessary for teachers to have in-depth knowledge of the purpose, implementation, and evaluation of such international tests, interpretation of results, and reflection of the results on the classroom environment, and to actively participate in these processes when necessary. At this point, it is possible to mention *"assessment literacy,"* at which teachers are expected to be competent. Assessment literates must understand not only classroom assessments but also large-scale testing. Assessment literacy is not only about what an assessment is and what it does but also about what an assessment is not and what it does not do (Jacqueline, Leighton, Rebecca, Gokiert, Ken Cor, & Heffernan, 2010).

The review of the relevant literature indicates that there is a limited number of studies worldwide on teachers' competencies, perceptions, attitudes, and opinions about PISA. Özcan & Arık (2018) reported that the general knowledge of Turkish teachers about PISA was below the medium level, that is, insufficient, Aşıcı (2014) stated that teachers were unfamiliar with the structure of the PISA tests, the logic behind the questions, and the skills they measure, and Altun & Akkaya (2014) determined mathematics teachers did not have sufficient knowledge about PISA tests. The results of the research conducted by Yıldız (2021) also show that teachers still lack knowledge about the texts and questions related to reading skills in PISA tests.

PISA reading questions (PISA, 2022) refer, beyond reading texts aloud, to the whole of the competencies that enable the reader to establish a close relationship with the information in one or more texts given for a specific purpose. Reading skills consist of three dimensions: different types of text, cognitive processes by which the reader interacts with the text, and questions and tasks of different difficulty levels. The reader with a certain level of reading skills needs to relate the information in the texts to understand what he/she reads and solve the given problem. As part of the PISA 2018 reading assessment framework, there are four different cognitive processes that readers actively use when reading a text. These processes are as follows: access to information, interpretation, evaluation and reflection, and fluent reading. On the teacher side, these cognitive processes are reflected as higher-order thinking skills.

In recent years, it is seen that teachers have to deal with the question types in PISA tests rather than the universal measurement values of PISA. With this systematic orientation, the concept of *"PISA-type questions"* has entered as a new concept in the literature in Turkey. As such, educational processes have turned into *"teaching question-solving strategies"* for PISA-type questions, rather than teaching the course content. Here, the concept of PISA-type questions refers to questions that measure higher-order thinking skills. In recent years, teachers have been offered training by the Ministry of National Education to develop questions that measure higher-order thinking skills. However, this process does not aim to evolve the entire education system toward developing higher-order thinking skills, rather, the primary focus is to achieve a rise in the country's PISA ranking. In the system where questions measuring higher-order thinking skills gain importance, especially teachers who give mother tongue education are faced with various problems. The results obtained from a test that is held in countries with linguistic, national, and cultural differences and that does not include all four language skills (reading, writing, speaking, listening) affect the entire mother tongue education process, which, in turn, causes teachers to experience confusion and dilemma and the mother tongue education to move away from its basic functions.

Taking these as a starting point, the present research aimed to determine Turkish teachers' views on PISA tests. The research aimed to determine teachers' views on the change made based on PISA in question types in national tests in general, and their views on the compatibility between PISA reading questions and the education system in particular. Hence and overall, the current research sought to determine Turkish teachers' opinions about Pisa. The research is important in that it intends to reveal the effects of PISA results on education policies, specifically on teachers.

Method

Research Design

Aiming to reveal how the changes created by the universal effect of PISA in language education are perceived and handled by teachers, this study was carried out with the relational survey method. In the relational survey method, relationships between variables are defined as they exist without any intervention, without changing or affecting the situation (Creswell, & Creswell, 2017; Fraenkel & Wallen, 2006).

Study Group

The study group consists of 98 teachers teaching Turkish. The data were obtained from teachers who actively gave mother tongue education in different public schools in the 2021-2022 academic year. Before being included in the study group, the teachers were asked whether they had any information about Turkey's scores in PISA 2018 reading skills test. The study was carried out with the answers given by the teachers who were informed about the PISA results. The demographic characteristics of the study group are given in Table 1.

As can be inferred from Table 1, 59.2% of 98 teachers are female, and 40.8% are male. 28.6% have a teaching experience of 0-5 years, 29.6% 6-10 years, and 41.8% more than 10 years.

Table 1: Demographic characteristics of the study group

Demographic Characteristics		*Frequency*	*Percentage*
Gender	Female	58	59.2
	Male	40	40.8
Teaching experience	0-5 years	28	28.6
	6-10 years	29	29.6
	More than 10 years	41	41.8
In-service training for questions that measure higher-order thinking skills (Pisa-type questions)	Yes	10	10.2
	No	88	89.8
Have you examined Pisa 2018 "Reading Skills" questions?	Yes	56	57.1
	No	42	42.9
	Total	**98**	**100**

The effect of Pisa in education systems is felt the most in the differentiation in question types. In this context, teachers were asked whether they received in-service training on Pisa-type questions. The majority of the participants (89.8%) stated that they did not receive such training. Of the teachers who reported having information about the 2018 PISA report, 57.1% reported examining the questions measuring reading skills, whereas 42.9% stated that they did not.

Data Collection Tools

The study employed the survey titled "Questions Measuring Higher-Order Thinking Skills in Mother Tongue Teaching and PISA" developed by the researchers. During the development of the survey, the literature was reviewed, and pilot interviews were conducted with field experts and teachers. As a result, a form consisting of two parts and a total of fourteen items was obtained. The obtained form was sent to four experts for expert opinion. Two of the experts work in the field of assessment and evaluation and two in the field of mother tongue education. The agreement rates between expert opinions were examined for each item individually, and the agreement percentages for all items were found to be between 98% and 86%. The survey with a high level of expert agreement was finalized after the language expert's recommendations. The final survey consists of two parts. The first part includes four optional questions about the demographic characteristics (gender, teaching experience etc.) of the participating teachers. The second part has ten structured questions about teachers' views on PISA (eg. Do you think PISA reading questions are compatible with our education system?) and on questions measuring higher-order thinking skills in mother tongue education (eg. Do you think PISA-type questions improve students' higher-order thinking skills?).

Data Analysis

The data collected for the teachers' general opinions about Pisa were analyzed descriptively, then regression was used for the main problem of the study. The obtained categorical data were analyzed by frequency analysis and logistic regression. SPSS 24 package programs were used for the analyses.

Findings

The study primarily aimed to reveal teachers' general views on PISA-type questions. In this context, teachers were asked whether they approved of the change made based on PISA in question types in national tests. Table 2 demonstrates the frequency of teachers' responses.

As can be inferred from Table 2, the vast majority of teachers (60.2%) partially approved of this change. On the other hand, the rate of teachers who do not approve of the change in national tests (10.2%) is lower than the rate of teachers who

approve of it (29.6%). This result can be interpreted as teachers being mostly pleased with this change.

Teachers were also asked whether they found PISA reading questions to be compatible with our education system. The obtained results are given in Table 3.

As can be inferred from Table 3, the vast majority of teachers (45.9%) stated that PISA reading questions were either not compatible with our education system or not compatible with it at all. On the other hand, the rate of teachers who think that PISA reading questions are compatible with our education system is 16.3%.

Teachers were also asked whether they found significant Turkey's rise in PISA 2018 "Reading Skills" rankings compared to previous years. The obtained results are given in Table 4.

As can be inferred from Table 4, 58.1% of teachers reported that they found Turkey's rise in the ranking significant. The rate of teachers who do not find Turkey's rise significant or who find it not significant at all is 13.2%.

Within the scope of the main purpose of the research, it was investigated whether teachers thought PISA-type questions improve students' higher-order thinking skills and which stage of the lesson PISA has the most impact in mother tongue education. The data obtained from the questions asked to the teachers were analyzed by logistic regression. In the tables below, agreeing and disagreeing with the idea that it develops higher-order thinking skills are examined in terms of goodness of fit, correct classification rates, and the contribution of independent variables to the outcome idea, respectively. Table 5 presents the model goodness of fit results.

Nagellerke R^2 and Cox&Snell R^2 reveal how much of the variance in the predicted variable is explained when the predictor variables enter the analysis. The research model explains 79.1% of the variability of the idea of the effect on higher-order thinking skills. The results of the Hosmer-Lemeshow Test are included in the logistic regression results. Considered to be the chi-square goodness of fit test, this test evaluates the fit of the logistic regression model as a whole. The insignificance of the result ($p>0.05$) indicates that the model-data fit is sufficient. Since the result obtained was $p=0.438>0.05$ for the model, the model data fit was achieved.

The correctness rate of the classification obtained as a result of the logistic regression analysis is given in Table 6.

Within the scope of the research, two categories were obtained: teachers who agree and who do not agree with the

Table 2: The frequency of teachers' views on the change in question types in national tests

		Frequency	*Percentage*
Do you approve of the changes made based on PISA in question types in national tests (high-school entrance exam, undergraduate placement exam, etc.)?	Yes	29	29.6
	Partially	59	60.2
	No	10	10.2
	Total	98	100

Table 3: The frequency of teachers' views on whether they find PISA reading questions compatible with the education system

		Frequency	*Percentage*
Do you think PISA reading questions are compatible with our education system?	Not at all	23	23.5
	Not compatible	22	22.4
	Partially compatible	37	37.8
	Compatible	15	15.3
	Quite compatible	1	1.0
	Total	98	100

Table 4: The frequency of teachers' views on whether they find significant Turkey's rise in PISA 2018 "Reading Skills" rankings compared to previous years

		Frequency	*Percentage*
Do you find significant Turkey's rise in PISA 2018 "Reading Skills" rankings compared to previous years?	Not significant at all	7	7.1
	Not significant	6	6.1
	Partially significant	28	28.6
	Significant	36	36.7
	Quite significant	21	21.4
	Total	98	100

Table 5: Model goodness of fit results

Model summary				*Hosmer-Lemeshow Test*		
Stage	-2Log probability	Cox & Snell R Square	Nagelkerke R Square	Chi-Square	df	p
1	45.954	.587	.791	3.770	4	.438

Table 6: Classification Table Obtained from the Logistic Regression Model

		Predicted Variable		*Correct Classification Rate*
		HOTS improve	*HOTS do not improve*	
Observed Variable	HOTS improve	58	0	100
	HOTS do not improve	40	0	0
	Total Correct Classification Rate			59.2

Table 7: Coefficient Estimations of Intended Model Variables

		Eigenvalue (B)	*Standard error*	*Wald*	*df*	*p*	*Exp (β)*
Step 1	Target	1.082	.413	6.86	1	.022	1.686
	Content	1.203	.493	5.946	1	.015	3.331
	Learning	1.075	.494	4.74	1	.037	1.007
	Assessment	1.746	.419	17.393	1	.000	5.730
	Constant	-6.835	1.311	27.191	1	.000	.001

idea that PISA-type questions improve students' higher-order thinking skills. As a result of the analysis, it was observed that in the first classification of the logistic regression given above, all the data were classified, and the correct classification percentage was 59.2%.

The study tested the significance of the independent variables whose effect was investigated on the idea that PISA-type questions improve students' higher-order thinking skills. Table 7 demonstrates the coefficient estimations of intended model variables.

As can be inferred from Table 7, the independent variables of objective, content, learning-teaching processes, and assessment have a significant effect on the classification of whether PISA-type questions improve students' higher-order thinking skills ($p<0.05$). According to the data obtained, odds ratios (Exp (β)) were interpreted to determine which variable was more affected by the logistic regression estimation of the idea of whether PISA-type questions improve students' higher-order thinking skills. Accordingly, the variables that most affect the idea that PISA-type questions improve students' higher-order thinking skills are as follows: the effect on the assessment processes (β=5,730), the effect on the lesson content (β=3,331), the effect on the objectives of the lesson (β=1,686), and the effect on the learning and teaching processes. In this context, it can be said that teachers who argue that PISA-type questions develop students' higher-order thinking skills think that PISA has the most effect on the assessment and evaluation processes, followed by the content of the course in mother tongue education.

Discussion and Conclusion

In this research conducted to determine Turkish teachers' views on PISA tests, teachers stated that PISA was effective in developing higher-order thinking skills in mother tongue lessons. In addition, according to teachers' opinions, PISA affects the assessment and evaluation process the most among the learning and teaching processes. According to the other findings, teachers stated that the question types in national tests changed based on PISA and they partially approved of this change. Also, they thought that PISA reading questions were incompatible with Turkey's education system, and they found Turkey's rise in the latest PISA reading skills ranking significant.

Moreover, teachers stated that PISA had an effect on improving students' higher-order thinking skills. The main reason for this situation is the inconsistency between the program and the applications. For example, although it is stated in the Turkish Curriculum renewed in 2019 that the program would contribute to improving students' higher-order cognitive skills, studies in the literature have revealed that students' higher-order thinking skills are not sufficiently addressed in the Turkish Curriculum (Filiz & Yıldırım, 2019). In addition, it is stated in the literature that most of the end-of-text questions in the Turkish textbook are inadequate

in reaching higher levels of Bloom's taxonomy (Durukan, 2009; Yeşilyurt, 2012; Akyol, 2001; Şengül, 2005). In light of all these findings, it is thought that PISA is seen by teachers as a new and useful way to develop in students higher-order thinking skills, which does not occur with changes in curriculum or books.

On the other hand, teachers stated that PISA most affected the assessment-evaluation process in Turkish classes, followed by the course content, course objectives, and finally the learning-teaching processes. This finding does not comply with the stages that a new approach to be included in the education system must undergo in the curriculum development process. Indeed, a new approach should primarily be aimed at the objectives of the relevant curriculum, and then the content should be arranged according to the new approach, and the learning-teaching processes should be improved, or changed if necessary, in line with the objectives and content. The assessment and evaluation process, on the other hand, should come in the last step and reveal the effectiveness of the applied new approach. However, the data obtained show that the new approach prioritizes the result rather than the process and that PISA has become a goal rather than a tool in the education system. In this context, it can be said that teachers who claim that students' higher-order thinking skills develop thanks to PISA-type questions think that PISA directly affects the assessment and evaluation process in mother tongue education and that this effect will definitely affect the objectives, content, and learning-teaching process of the said lesson.

Participating teachers stated that the question types in national tests changed based on PISA and that they partially approved of this change. Accordingly, teachers are generally pleased with this change. This finding can be interpreted as that teachers do not have in-depth knowledge of the purpose and financial and political aspects of PISA and that they find PISA as an innovative and modern application with 21st-century skills. Factors such as the international ranking in PISA, the high level of welfare of the participating countries, and the great media coverage of PISA results have caused PISA to become a myth. This being the case, it is thought that teachers have an opinion about PISA results in accordance with the general public opinion.

The majority of the participating teachers stated that PISA reading questions were not compatible with our education system. This finding supports the findings of the research conducted by Mohamed, Sahminan, Len, & Shahrill (2019). The authors stated that the education system in Brunei, which started to participate in PISA tests in 2018, is not directly related to PISA questions and that teachers needed extra time to prepare students for PISA tests. This finding shows that countries apply PISA tests unconditionally, regardless of whether their education system is compatible with PISA. However, countries need to identify the needs and aims of their education systems before applying PISA tests. In this context, the focus should not be on developing a strategy for solving PISA questions. The main focus should be on improving the education system to offer real learning content, taking into account the country's own characteristics, educational dynamics, and values.

Most of the teachers find significant Turkey's rise in PISA 2018 "reading skills" compared to previous years, but they do not make any comments to justify this rise. Indeed, considering that development and change in education take place over many years, a sudden change that took place in only three years should not be considered to be very meaningful. Rather, this finding shows that teachers do not have a quality assessment literacy for PISA tests. Stiggins et al. (1991) also argued that teachers generally lacked sufficient assessment literacy.

A country's educational culture, education policies, and education system play a decisive role in whether PISA results are included as a criterion in the education system. It should not be thought that all countries and all education systems are suitable for PISA, but compliance should be evaluated by field experts. If participation in PISA tests and the reflection of the results on the education system are deemed necessary nationwide, it should be known that not only PISA results should be the focus but also the entire education process should be redesigned. Furthermore, PISA results should not be evaluated without taking teachers' opinions, since, in such a case, the theory and practices in the education system may be incompatible with PISA.

Suggestion and Limitation

The results obtained from this study, it is seen that the reflection of the results obtained by the participation of countries in large-scale assessments directly to the education system is not correct. For this reason, it is recommended that legislators, teachers and all other participators who plan national education should be made aware of assessment literacy. However, it is seen that measurement-evaluation processes that are not compatible with the main goal and content of education are not sufficient on their own. Thus, it is recommended that all the above-mentioned participators acquire program literacy skills in order to understand whether the international exam questions are compatible with the national education system. This research, which is based on mother tongue education, was conducted in Turkey. It is recommended that other countries participating in the PISA exam also conduct research on this basis. Finally, this research focused on mother tongue education, and it is recommended to conduct research on science and mathematics education.

References

Journal Article

Altun, M., & Akkaya, R. (2014). Mathematics teachers' comments on PISA math questions and our country's students' low achievement levels. Hacettepe University Journal of Education, 29(1), 19-34.

Anders, J., Has, S., Jerrim, J. et al. (2021). Is Canada really an education superpower? The impact of non-participation on results from PISA 2015. Educ Asse Eval Acc 33, 229–249 https://doi.org/10.1007/s11092-020-09329-5

Aşıcı, M., Baysal, Z. & Şahenk Erkan, S. (2014). "A Proposal for the Preparation of PISA Exam Reading Literacy Teacher Guide. Eğitim ve Öğretim Araştırmaları Dergisi, 3(4).

Avvisati, F., Le Donne, N., & Paccagnella, M. (2019). A meeting report: Cross-cultural comparability of questionnaire measures in large-scale international surveys. Measurement Instruments for the Social Sciences, 1(8), 1–10.

Bağdu Söyler, P., Aydın, B., & Atılgan, H. (2021). PISA 2015 reading test item parameters across language groups: A measurement invariance study with binary variables. Journal of Measurement and Evaluation in Education and Psychology, 12(2), 112-128.

Białecki, I., Jakubowski, M., & Wiśniewski, J. (2017). Education policy in Poland: The impact of PISA (and other international studies). European Journal of Education, 52(2), 167-174.

Bieber, T., & Martens, K. (2011). The OECD PISA study as a soft power in education? Lessons from Switzerland and the US. European Journal of Education, 46, 101-116.

Bray, M., Kobakhidze, M. N., & Suter, L. E. (2020). The challenges of measuring outside-school-time educational activities: Experiences and lessons from the Programme for International Student Assessment (PISA). Comparative Education Review, 64(1), 87–106.

Carvalho L.M., & Costa E. (2015) Seeing education with one'sown eyes and through PISA lenses: Considerations of the reception of PISA in European countries, Discourse: Studies in the Cultural Politics of Education, 36(5), 638-646.

Erden, B. (2020). Teachers' Views Related to Skill-Based Questions in Turkish, Mathematics and Science Lessons. Academia Eğitim Araştırmaları Dergisi, 5(2), 81-103.

Filiz, S. B., & Yıldırım, N. (2019). Analysis of secondary-school Turkish course curriculum objectives according to Revised Bloom Taxonomy. Ilkogretim Online, 18(4).

Hopfenbeck, T. N., Lenkeit, J., El Masri, Y., Cantrell, K., Ryan, J., & Baird, J.-A. (2018). Lessons learned from PISA: A systematic review of peer-reviewed articles on the programme for international student assessment. Scandinavian Journal of Educational Research, 62(3), 333–353. https ://doi.org/10.1080/00313 831.2016.12587 26.

Hopfenbeck,T. N., & Görgen, K. (2017). The politics of PISA: The media, policy and public responses in Norway and England. European Journal of Education, 52(2), 192–205. https://doi.org/10.1111/ejed.12219

Hubert E. (2006) Educational standards and the changing discourse on education: the reception and consequences of the PISA study in Germany. Oxford Review of Education, 32(5), 619-634.

Ioannidou, O., Georgiou, D., Obersteiner, A., Bas, N. D., & Mieslinger, C. (2017). Do prospective teachers care about PISA studies? A pilot study among university students in Germany. International Education Studies, 10(5), 26-35.

Jacqueline P. Leighton , Rebecca J. Gokiert , M. Ken Cor & Colleen Heffernan. (2010). Teacher beliefs about the cognitive diagnostic information of classroom- versus large-scale tests: implications for assessment literacy. Assessment in Education: Principles, Policy & Practice, 17(1), 7-21. https://doi.org/10.1080/09695940903565362

Kankaraš, M., & Moors, G. (2014). Analysis of cross-cultural comparability of PISA 2009 scores. Journal of Cross-Cultural Psychology, 45(3), 381–399.

Lafontaine, D., & Monseur, C. (2009). Gender gap in comparative studies of reading comprehension: To what extent do the test characteristics make a difference? European Educational Research Journal, 8(1), 69–79.

Leighton J.P., Gokiert R. , Cor M. & Heffernan, C. (2010). Teacher beliefs about the cognitive diagnostic information of classroom-versus large-scaletests: implications for assessment literacy. Assessment in Education: Principles, Policy & Practice, 17(1), 7-21.

Masri, Y., Baird, J., & Graesser, A. (2016). Language effects in international testing: the case of PISA 2006 science items. Assessment in Education: Principles, Policy & Practice, 23(4), 427–455.

Nic Spaull (2019) Who makes it into PISA? Understanding the impact of PISA sample eligibility using Turkey as a case study (PISA2003–PISA2012). Assessment in Education: Principles, Policy & Practice, 26(4), 397-421.

Oz, E. (2021). Comparability of teachers' educational background items in TIMSS: A case from Turkey. Large-scale Assessments in Education, 9(1), 1-18.

Özcan, H., & Arık, S. (2018). The opinions of secondary school teachers about PISA researches: A case study. Necatibey Faculty of Education Electronic Journal of Science & Mathematics Education, 12(2).

Pizmony-Levy, O., & Bjorklund, P. (2017). International assessments of student achievement and public confidence in education: Evidence from a cross-national study. Oxford Review of Education, 44(2), 239–257. https://doi.org/10.1080/03054985.2017.1389714.

Ringarp, J., & Rothland, M. (2010). Is the grass always greener? The effect of the PISA results on education debates in Sweden and Germany. European Educational Research Journal, 9(3), 422-430.

Rutkowski, L., & Rutkowski, D. (2016). A call for a more measured approach to reporting and interpreting PISA results. Educational Researcher, 45(4), 252–257.

Sellar S. & Lingard, B. (2013). Looking East: Shanghai, PISA 2009 and the reconstitution of reference societies in the global education policy field, Comparative Education, 49(4), 464-485.

Smith, M. (1991). Put to the test: The effects of external testing on teachers. Educational Researcher, 20(5), 8-11.

Spruyt, B., Van Droogenbroeck, F., Van Den Borre, L., Emery, L., Keppens, G., & Siongers, J. (2021). Teachers' perceived societal appreciation: PISA outcomes predict whether teachers feel valued in society. International Journal of Educational Research, 109, 101833.

Takayama, K.(2008).The politics of international league tables: PISA in Japan's achievement crisis debate. Comparative Education, 44(4), 387-407, https://doi.org/10.1080/03050060802481413

Yildiz. D. (2021). Turkish and Turkish language and literature teachers' views' on the reading skills and Turkey's performance in PISA: A focus group interview. Journal of Qualitative Research in Education, 27, 208-231.

Zhao, Y. (2020). "Two Decades of Havoc: A Synthesis of Criticism against PISA." Journal of Educational Change, 21(2), 245–266.

Book

Breakspear, S. (2012). The Policy Impact of PISA: An Exploration of the Normative Effects of International Benchmarking in School System Performance. OECD Education Working Papers, No. 71. OECD Publishing (NJ1).

Creswell, J. W., & Creswell, J. D. (2017). Research design: Qualitative, quantitative, and mixed methods approaches. Sage publications.

Dolton, P., Marcenaro, O., De Vries, R., & She, P. W. (2018). Global teacher status index 2018. London: Varkey Foundation.

Fraenkel, J. R., & Wallen, N. E. (2006). How to design and evaluate research in education (6th ed.). New York, NY: McGraw-Hill.

Hopkins, D., Pennock, D., Ritzen, J., Ahtaridou, E., & Zimmer, K. (2008). External Evaluation of the Policy Impact of PISA.

Mohamed, D. S. M. P. H., Sahminan, S. H., Len, G. A., & Shahrill, M. (2019). Teachers' awareness, understanding and challenges regarding the PISA implementation. In AIP Conference Proceedings (Vol. 2194, No. 1, p. 020066). AIP Publishing LLC.

Piro, J. M. (2019). The primacy of PISA. How the world's most important test is changing education globally. New York: Lexington Books.

Piro, J. M. (2019). The primacy of PISA: How the world's most important test is changing education globally. Rowman & Littlefield.

Stiggins, R.J. 1991. Assessment literacy. Phi Delta Kappan.

Books with Multiple Editors and Chapters

Gruber, K.-H. (2006) The German 'PISA-Shock': some aspects of the extraordinary impact of the OECD's PISA study on the German education system, in H. Ertl (Eds.) Cross-National Attraction in Education: accounts from England and Germany. Oxford: Symposium Books.

Masemann, V.L. (2013). Culture and Education. Arnova, R. F., Torres, C. A. & Franz, S. (Eds.). Comparative Education: The Dialectic of the Global and Local Comparative Education: The Dialectic of the Global and Local. (pp.113-133). Rowman and Littlefield Puhlishers. United Kingdom.

Tillmann KJ., Dedering K., Kneuper D., Kuhlmann C., Nessel I. (2008) PISA als bildungspolitisches Ereignis. Oder: Wie weit trägt das Konzept der „evaluationsbasierten Steuerung"?. In: Brüsemeister T., Eubel KD. (eds) Evaluation, Wissen und Nichtwissen. VS Verlag für Sozialwissenschaften. https://doi.org/10.1007/978-3-531-90818-2_6

Master's Thesis

Hyökki, R. (2018). International Solutions to National Problems: German teachers' perceptions of the PISA 2000 study. Master Disseratation University Of Helsinki.

Doctoral Dissertation

Berger, A. (2006). High-stakes testing and its relationship to stress between rural and urban elementary school teachers. Doctoral Dissertation, Walden University.

Christian, S. C. (2010). High-stakes testing and its relationship to stress levels of secondary teachers. Doctoral Dissertation, University of Southern Mississippi. https://aquila.usm.edu/dissertations/932

Sources from Web sites

PISA 2022 Turkey Report. http://pisa.meb.gov.tr