THE PREDICTIVE POWER OF ENABLING DISCIPLINE AND TIME MANAGEMENT IN CLASSROOM ON READING PERFORMANCE: THE ANALYSIS OF PISA 2018 DATA

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ABSTRACT

PISA exam aims to measure student literacy in three different areas; reading, mathematics and science. It also focuses on several characteristics of teachers and students in addition to teacher-student interaction, learning climate and order in the classroom on the base of teaching quality. The main focus of PISA 2018 was the reading skill. Besides, discipline and time management issues were also evaluated in PISA 2018 as factors that affect students' academic performance. This study aims to examine the effect of discipline and time management issues, which were evaluated through the ST074 coded PISA questionnaire, on students' reading performances. This study is designed in descriptive survey model. The data of the study consist of the data on the first and the last five countries with regard to reading performance in PISA 2018 with the exception of Lebanon, whose data did not exist in the database. The results of the study show that discipline and time management in classroom predicts reading performance. Also, it is concluded that discipline and time management in classroom differ in terms of the first and the last five countries with regard to reading performance, with the exception of Kosovo. The results of the study are discussed within the related literature and several recommendations are made accordingly. In this sense, countries with low reading performance are recommended to revise their educational policies in terms of discipline in classroom. In addition, teachers are recommended that they take discipline and time management issues more seriously in reading classes and plan especially their reading lessons meticulously. Also, it is recommended that researchers conduct both quantitative and qualitative studies to examine the Kosovo case in detail.

Keywords: Discipline in classroom, time management in classroom, reading performance, PISA 2018

INTRODUCTION

The results of the Program for International Student Achievement (PISA) enable countries to measure the knowledge and skills of their students in comparison with those of students from different countries, to set new policies and goals accordingly and to take lessons from the results of those policies and processes they implement (Ringarp & Rothland, 2010). PISA focuses on the assessment of individuals' ability to use their knowledge and skills to cope with the difficulties they may encounter in real life (Reinikainen, 2012). In the PISA exam, student literacy is measured in three different areas; reading, mathematics and science. PISA 2018, in which more than 600,000 students from 79 countries participated, focused on reading skills and developed a different evaluation framework to reveal how reading had changed in the last 10 years. In this context, special emphasis was placed on reading in multi-source texts in the program, in which the prevalence of reading in digital media was addressed (Mo, 2019).

Reading Literacy

Since PISA 2018 focuses on reading data, it is necessary to explain the basic concepts such as literacy so that reading skill can be understood better. Literacy is defined as the basic reading and writing skills that include obtaining and using information using all kinds of written text from meta-linguistic analysis of grammatical units to verbal and written text structures (Nugrahanto & Zuchdi, 2019). Students' 'reading literacy' is described as understanding and using written texts, reflecting their messages and diving deep into the texts in order to increase their knowledge and potential and to gain a place in the society (OECD, 2017:53). Students have to make use of complex thinking processes such as establishing relationships between events and phenomena, making comparisons, presenting evidence, and making generalizations, inferences or predictions during their learning process. The main purpose of reading skill is to develop comprehension and comprehension skills that will enable students to do these things (Tavsancil, Yildirim & Bilican Demir, 2019). Patel and Jain (2008:113) state that reading is an important activity in life because it enables individuals to keep their knowledge up-to-date. It is argued that low reading success negatively affects students 'learning capacity and performance (Cain & Hattie, 2020) and constitutes an obstacle for them to progress in their education (OECD, 2010a). In addition, it has been suggested that low reading success can negatively affect individuals' attitudes towards learning (Korhonen et al., 2014) because repeated reading problems and failures can cause students to question their academic competence, develop negative attitudes towards reading and avoid working due to anxiety of failure (Lee & Zentall, 2012). Academic reading skills have a significant impact on educational attainment and academic performance (Calvin et al., 2017; Wrulich et al., 2014).

One of the main goals of schools is to increase the academic success of students. Student success occurs as a result of dynamic, complex and multidimensional interactions with a wide variety of factors rather than a single reason (Toshalis & Nakkula, 2012). However, as can be seen from the abovementioned explanations, competencies in reading skills play a very important role in students' academic achievements. Reading skill

underpins other academic skills and students' full participation in adult life (OECD, 2010b). On the other hand, reading is described as a dynamic and complex process that is influenced by readers' personality traits, learning processes, previous knowledge and many other factors (Wilkinson & Son, 2011). In the reading process, the individual utilizes different skills and strategies to find and understand information (van den Broek et al., 2014), thus creating new meanings based on the text by using previous knowledge and a set of socially and culturally derived texts and status signs (OECD, 2017). Reading is generally understood as simply decoding. However, in PISA tests, the term reading literacy is preferred rather than reading as it aims at a broader and deeper evaluation since literacy encompasses a wide variety of cognitive competencies from a simple decoding to word, grammar, broader linguistic and textual structures and even knowledge of the world (OECD, 2017).

Students' level of understanding, using and interpreting written texts prepared for various purposes, audiences and environments are considered in the assessment of reading skills (Çelik & Yurdakul, 2020). PISA aims to demonstrate active, purposeful and functional reading skills in various situations and for different purposes through the literacy assessment (OECD, 2017). In this context, PISA tries to ensure that the issue is addressed in a wider way by making an evaluation on three basic principles; processes, text and situation. Processes express the cognitive approach that determines how the reader interacts with the text while the texts represent the variety of material read and the situation represents the purpose of reading and the context in which it takes place. In the context of the process dimension, PISA handles literacy in three mental processing categories as access and retrieving, integrating and interpreting, and reflecting and evaluating. The text dimension of the assessment includes the text reading medium, or reading medium, text format and text type categories. The situation dimension is adapted from the Common European Framework of Reference (CEFR) and is discussed within four categories as personal, educational, professional and social. However, the results taken into consideration in the 5, 4, 3, 2, 1a, 1b and lowest 1c level scales starting from 6 as the highest level are reported under a single heading as reading proficiency (OECD, 2017).

In the literature, factors affecting reading skills and performance include parents' socio-economic status (Kahraman & Çelik, 2017), positive and fair teacher behaviour (Jones & Jones, 2015), student motivation (Retelsdorf et al., 2011; Jasman & Novianni, 2020), the number of students (Fredriksson, Öckert & Oosterbeek, 2013), gender (Wu, 2020) and the education level of teachers (Çelik & Yurdakul, 2020). The classroom environment also has a great effect on reading performance (Pintrich et al., 2003) and a positive classroom environment also positively affects students' reading comprehension skills (Amin, 2020). As a result of his study with students from Hong Kong, Lau (2012) suggests that students 'reading performance is low in classrooms where teachers' authority and control are very high and students are not provided with autonomy. Luz (2015) reveals that good relationships with students and a positive classroom environment are very effective in motivating students, exhibiting positive behaviours in the classroom and participating in the learning process.

Although the quality of the education is difficult to identify and measure, it is recognized as the most influential factor on students' academic performance (OECD, 2017). Anderson (2004) argues that, in the context of teacher

and teaching quality framework, effective teaching is based on the way the course is delivered and interaction with the student, and that factors such as classroom climate, classroom culture, classroom layout and classroom management have a direct impact on students' participation and learning in the teaching process. The aim of this study is to reveal the effect of maintaining order in the classroom as a dimension of classroom management, prevention of undesirable behaviours that would disrupt the education and training process in the classroom and the efficient use of the time allocated for education in the classroom on students' reading performance in terms of the grade level.

Classroom Management

Çelik (2008) and Başar (2002) collected classroom management activities under five dimensions being physical order, teaching plan-program activities, time management, classroom communication and behavioural arrangements. The school-based content of PISA covers learning time inside and outside the school and collects data on the loss of the time allocated to teaching in the classroom while making inquiries about the reasons for students' truancy. PISA evaluates various characteristics of teachers and students as well as teacher-student interaction, and the learning climate and order in the classroom on the base of teaching quality (OECD, 2017). For example; with the ST074 coded PISA questionnaire, the frequency of situations and cases is questioned through the below-mentioned statements:

- Students do not listen to what the teacher says.
- There is noise and disorder in the classroom.
- The teacher has to wait for a long time for the students to be silent.
- The students do not study well.
- Students do not start studying long after the lesson begins. (OECD, 2017:136).

With these expressions, PISA seeks for data on both the time devoted to education in the classroom and the attitudes and behaviours of the students in the classroom as well as the effectiveness of teachers' classroom management. It is understood from this that OECD also assumes that the time allocated to teaching in the classroom and maintaining discipline in the classroom may be related to students' math, science and reading performance. Considering the subject of this study, the issues that come to the fore are, in the general sense, classroom management in addition to specific issues such as time management and behavioural arrangements (discipline) as factors that serve to create a suitable classroom environment for students to exhibit desired behaviours.

The effective management of the classroom as the environment in which educational activities are performed (Celep, 2008) is considered important and necessary for providing a quality education (Yalçınkaya & Tonbul, 2002) and ensuring that students achieve the desired goals (Başar, 2004). Effective classroom management, which is defined as the teacher's supervision and management of learning activities, social interaction, and student behaviour, is considered vital for students' learning and academic performance (Ritter & Hancock, 2007).

Without an effective classroom management, it is unlikely that the desired behavioural patterns in the classroom environment can be realized at the desired level (Terzi, 2002). Brophy (1986, 1996) defines classroom management as actions taken to create and maintain a learning environment that makes successful teaching possible. Because the effective management of the classroom makes it possible to achieve goals by harmonizing different voices like a conductor does (İlgar, 2007).

Definitions for classroom management generally focus on the management and use of time, communication and interaction in the classroom, student behaviour, student participation and teaching processes. In a definition that includes all of these dimensions, Özyürek (2005) defines classroom management as the management of teaching-learning processes, discipline, time, interpersonal relations and student behaviours in the classroom using the physical equipment as well as enabling students to participate in learning activities eliminating, or changing, behaviours that hinder teaching activities. Marzano, Marzano and Pickering (2003) describe classroom management as teacher's activities for (1) establishing rules and procedures, and ensuring that students behave in accordance with those rules and procedures, (2) maintaining discipline, (3) managing teacher-student relations and (4) maintaining an appropriate mind-set for management. According to the researcher, effective classroom management can only be achieved by employing effective practices in the specified areas.

In general terms, classroom management covers all the skills teachers need to display in order to create appropriate learning environments that will reveal positive student behaviours and achievements (Burgaz, 2002). Shamina and Mumthas (2018) define classroom management as the actions taken to create and maintain an appropriate learning environment for the achievement of the educational goals by organizing the physical environment of the classroom, establishing rules and procedures, maintaining the attention paid to lessons and engaging in academic activities, and consider it as a vital component of the teaching-learning process. Marzano and Marzano (2003) add maintaining effective communication, interpersonal relationships and discipline to this definition of classroom management.

Brophy (2010), who also focuses on communication and behaviour issues, defines classroom management as the teachers' efforts to manage and direct activities such as student behaviour, learning and social interaction in the classroom. Pisacreta, Tincani, Connell, and Axelrod (2011) state that classroom management includes not only lesson planning and teaching as a versatile process but also providing a safe environment and coping with negative student behaviours. Savaş (2012) defines classroom management as encouraging students to be successful, helping to increase student performance, preventing undesirable behaviours in the classroom and guiding students to solve their psychological or social problems. Negative student behaviours may be prevented by several intervention strategies in classroom management, but it is also within the scope of classroom management to teach students the ability to regulate their own moods and to eliminate negative behaviours (Bailey, 2011).

In addition to being a process that includes the dimensions of communication and behaviour, classroom management is also defined as the efficient use of time (Çelik, 2012) and ensuring the participation of students in classroom activities (Erdoğan, 2011). According to Wong and Wong (2005) and Arı and Deniz (2008), classroom management includes all kinds of activities and behaviours the teacher performs to organize students, space, time and resources so that students can participate in learning activities and learn. Enabling children to participate willingly in classroom activities through collaborative practises and adjusting learning environments and time for this purpose is closely related to classroom management (Odden, 2009).

Successful classroom management includes not only the teacher's behaviour management but also the teaching style and teacher-student relationship (Wang, Haertel, & Walberg, 1993; Good & Brophy, 2006; Marzano, Marzano & Pickering, 2003; Martin & Sass, 2010). Classroom management within the framework of modern management and education mentality requires teachers to communicate effectively with students, to motivate students in accordance with the purpose of teaching, to use the classroom environment and time effectively and to cope with undesired student behaviours while performing teaching activities in the classroom (Yazıcı, 2011). In-class practices carried out in accordance with such requirements include not only all kinds of steps taken to provide a learning environment that supports and facilitates both academic and social-emotional learning, but also the processes of planning, organizing, maintaining and evaluating education as well as disciplinary management (Evertson & Weinstein, 2006). In terms of the focus of this study, the classroom management practises that supports and facilitates learning, which is about reading performance specific to this study, are discussed within two dimensions of classroom management such as discipline, or order, in classroom and time management in classroom.

Discipline in Classroom

One of the dimensions of classroom management considered to be related to student achievement includes discipline, undesired student behaviour and students' participation in the course. In general, the concept of discipline can be explained as taking measures, setting rules and implementing those measures and rules (Köktaş & Köktaş, 2007; Sarıtaş, 2000) in order to ensure that people who come together around a common purpose live in a certain order. Based on the common aspects of the definitions made for classroom management and discipline, it can be claimed that discipline also means classroom management (Hoile, 2016).

The discipline, which expresses an order appropriate for education as well as the display of desirable and accepted behaviours (Jacques, 2000), is accepted as a basic requirement for successful education and training in schools (Eshetu, 2014). The disciplinary climate prevailing in the school reflects the aims of the school and how school rules are determined in accordance with those aims, how they are shared with students and how they are implemented (Gregory et al., 2010). Discipline at school consists of a series of rules that direct students' behaviours and a series of criteria that indicate the degree of implementation of those rules (Gündüz, 2011). While it is related to the effective management of the school and achieving its goals (Nakpodia, 2010), as it also

affects classroom practices, it is of great significance in terms of students' behavioural problems (Wang et al., 2010), academic performance (Njoroge & Nyabuto, 2014) and academic achievement (Krskova & Baumann, 2017). However, teacher-student interactions take place in the classroom and the classroom is the main environment in which students' resistance and opposition are clearly displayed (Hand, 2010) and in this sense, classroom discipline should be attached a special importance. Discipline in the classroom environment refers to the way teachers control negative behaviours in the classroom, which is an important part of their classroom management skills (Erden, 2005). Performing learning and teaching activities in the classroom regularly and without interruption is considered as a fundamental mission of classroom management (Ning et al., 2015) and behaviours such as noise, chaos and disorder are stated to indicate an unsuccessful, or inefficient, classroom management (Grandström, 2006). All such behaviours that hinder educational efforts in the classroom can be described as undesirable or negative behaviours (Sağlam et al., 2007, 506). Classroom management competencies are at the top of teacher competencies (Stephens & Crawley, 1994) and the ability to perform classroom management activities in a healthy way depends on the teachers' understanding of discipline and their relationship with students (Binbaşıoğlu, 1994). Therefore, it is predicted that teachers with high discipline competence will be able to do effective classroom management and teaching (Ekici & Kurt, 2014).

In this context, discipline appears as an important concept because discipline also aims at the student's self-control, learning desired behaviours and habits, developing self-control and gaining a sense of responsibility (Tümkaya, 2005). It can be stated that, among the essential factors in student learning, classroom management skills that the teachers show in order to provide discipline are of the greatest importance (Wang, Haertal, & Walberg, 1994; Sortkær, & Reimer, 2016). Because, as a result of the decrease in discipline problems, it will be possible to carry out academic activities regularly in the classroom, ensure order in the classroom and achieve the purpose of learning-teaching activities (Lueddeke, 2003; Lindblom, Trigwell, Nevgi, & Ashwin, 2006). However, how and to what extent disciplinary practices take place is important. Hollingsworth et al. (1984) argue that excessive discipline applied in the classroom does not contribute to maintaining order but results in more resistance and blocking behaviours. Lewis (2001) states that a certain level of discipline in the classroom environment will prevent negative and disruptive negative behaviours of students and facilitate learning as long as there are no teacher behaviours such as humiliation and punishment which reduce student motivation and prevent participation. Putnam et al (2003) have concluded that a discipline practice that includes the continuous visual inspection of the teacher in the classroom and the sharing of various classroom rules with students with a positive use of language decrease the students' negative and obstructive behaviours while increasing their academic performance and success by enabling them to participate in the lesson. Students' disturbance and lack of discipline weaken quality education (Karanja & Bowen, 2012:1). Negative behaviours that disturb the order in the classroom and interrupt the teaching-learning activities negatively affect students' performance and academic achievement (Kinsler, 2013). Studies comparing the classes of teachers with or without effective classroom management have shown that effective teachers have less behavioural problems in their classrooms and students' participation in class is higher in such classrooms. In addition, it has been observed that teachers

who do not use effective classroom management techniques sufficiently have difficulties in coping with students' behavioural problems and creating an efficient classroom environment (Yıldız, 2013).

Discipline in Classroom and Student Achievement

It is accepted that classroom management is an important variable on student success. Turan (2019) defines classroom management as the process of organizing and maintaining classroom activities effectively with a focus on learning and guiding student behaviour. Yeşilyurt and Çankaya (2008) state that the teacher as a class leader should analyse the classroom management variables well and take these features into account while managing the classroom. Ataman (2000) also underline the relation between classroom management and order in the classroom, and emphasize that students may exhibit more undesirable behaviours if there is no effective classroom management in the classroom. It is thought that negative situations in the classroom are effective on students' negative attitudes towards the lesson and teacher (Erol, Özaydın, & Koç, 2010). It is revealed that regular and disciplined classroom environments increase the academic performance and success of students (Frenzel, Pekrun, & Goetz, 2007).

Negative or inappropriate student behaviours in the classroom can be described as all frequent and long-lasting behaviours that cause great difficulty to teachers and hinder educational efforts at school and in the classroom. (Sağlam et al., 2007:506). Defining these behaviours as those that disturb the classroom and create problems for the teacher in terms of classroom management and teaching activities, Sun and Shek (2012) have cited making noise, ignoring the teacher's instructions and not participating in the classroom learning process verbally or physically. However, the in-class interaction process is considered to be one of the most important factors in gaining learning experiences and increasing the quality of teaching service (Küçükoğlu & Köse, 2008). Disabling student behaviours that interrupt this process both prevent teaching-learning process and affect the development of academic skills such as reading negatively (Putnam et al., 2003). A controlled classroom environment is very important for effective learning, good student-teacher relationship and collaboration with peers (Walters & Frei, 2007:7). Teachers who fail in classroom management also fail to control students and encourage them to learning. (Akan, Şener, Başar & Şen, 2016). In his study examining the effect of discipline on academic achievement in secondary schools, Khuluse (2009) have concluded that negative and disruptive behaviours such as talking excessively, making noise, not listening to the teacher, disturbing other students and starting the lesson activities late should be prevented so that discipline can be provided, teaching-learning process can be facilitated and therefore the purpose of education can be achieved.

The hierarchical linear analysis results in a study that are based on PISA 2009 data and evaluate the reading performance of students from 65 countries participating in the exam have revealed that better classroom discipline provides higher reading performance. According to the results of the study, classroom discipline climate explains 11% of the difference between reading performances (Ning et al., 2015). In a similar study based on PISA 2012 data, (Baumann & Krskova, 2016) compared the academic performances of students from five

different countries in the context of issues related to in-class discipline such as noise level in the classroom, time spent waiting for the teacher, time to start the lesson, students' listening to the teacher and students' participation in the course, and concluded that the students with the most positive results were also the ones with the highest academic performance. In a study examining the relationship between the reading readiness levels of first-year students in a rehabilitation school in Kenya and the modelling method and discipline management, teachers provided in-class discipline with the role-model technique, thereby reducing students 'unwanted and disorganizing behaviours as well as ensuring students' participation and reading. It was concluded that their reading performance increased (Murunga, Jatumu & Oringa, 2019).

In another study, the relationship between the level of discipline applied in the classroom and the academic performance of 8th grade students was examined. The results of the study revealed that there is a moderate positive relationship between the level of discipline in the classroom and the academic performance of the students. Accordingly, discipline was identified as a factor that increases student academic performance by 25% (Simba, Agak & Kabuka, 2016). Obtaining a similar result, Ning (2019) found that the disciplinary climate in the classroom affected the academic mathematics performance of the students and that the positive disciplinary climate increased academic mathematics performance by 10%. Whisman and Hammer (2014) concluded in their study that the mathematics course proficiency levels of students who were exposed to disciplinary practices due to problematic and undesirable disciplinary behaviours were lower than those of the students without disciplinary problems. Njoroge and Nyabuto (2014) stated that undesirable and disrupting behaviours in the classroom negatively affected learning and teacher-student relations, damaged the learning environment, caused the course time to be wasted and reduced the academic performance of not only the students with disciplinary problems but also the innocent ones. Collective student behaviours that are positive and do not disturb the classroom order are seen as the key to learning and it is claimed that they increase academic performance (Gazmuri, Manzi & Paredes, 2015).

In his qualitative study examining the relationship between students' reading scores and their exposure to disciplinary practices, Palombit (2019) also reached a similar result revealing an inverse relationship between students' reading scores and their level of misbehaviour. Myers, Milne, Baker, and Gingsburg (1987) examined the relationship between 2nd grade high school students' misbehaviours and academic performances and achievements in reading and mathematics lessons. The findings of the study revealed that undesirable and negative behaviours that disturb the classroom order had a negative effect on students' academic performance and achievement in these courses.

Time Management in Classroom and Student Achievement

In relation to the subject of the study, it is thought that student success is also related to the appropriate and efficient use of the time allocated for education in the classroom. Docking (2000), who discussed discipline in the context of the standard behaviours expected from teachers and students, emphasizes the need for teachers to

use the time allocated to teaching and learning effectively, and states that students are supposed to comply with the time allocated to lessons and learning. Although Kinsler (2013) argues that the loss of time at the beginning of the lesson has little effect on the performance of students, wasting the time allocated to teaching and learning by using it ineffectively is considered among the undesirable behaviours in terms of classroom management (Docking, 2000).

Time management refers to the efficient use of the limited time available in the process of using the resources in line with the determined priorities and goals (Açıkalın, 1994). In a similar and more concise definition, time management is defined as the effective and efficient use of the time allocated to achieve the desired goals (Kelly, 2002). Approaching the subject from a different perspective, Cüceloğlu (1997) explains time management as an individual's self-management rather than the management of time. Accordingly, time management describes the individual's use of limited time and managing himself on the basis of this time period in order to achieve goals effectively and obtain qualified results.

In this sense, time management represents the efficient (Tutar, 2020) and quality (Erdem, et al, 2005) use of time rather than the management of time. Because people in fact do not manage the time but they manage themselves according to the time they have (Josephs, 1996). In other words, time management is the management of activities which we engage in overtime and successfully dividing time into activity periods. In short, it is self-management within a specific period of time (Gürbüz & Aydın, 2012), which requires students to have a high level of self-discipline. Self-discipline, also known as self-control, is an automatic process that includes students' ability to ignore distracting factors, carry on their tasks and control their behaviours, thoughts and emotions (Li, 2006). Zhao and Kuo (2015) found that self-discipline is a factor that brings academic success. Similarly, Duckworth and Seligman (2005) concluded that self-discipline is a determinant of academic achievement and even has a higher predictive effect than intellectual intelligence.

Purpose of the Study

In PISA 2018, the students who participated in the test were asked to rate the following five items regarding discipline and time management in classroom:

•   ST097Q01TA Students don't listen to what the teacher says.

•   ST097Q02TA There is noise and disorder.

•   ST097Q03TA The teacher has to wait a long time for students to quiet down.

•   ST097Q04TA Students cannot work well.

•   ST097Q05TA Students don't start working for a long time after the lesson begins.

Besides, student literacy was measured in three different areas namely reading, mathematics and science. Considering that reading is a vital skill in that it enables individuals to keep their knowledge up-to-date, this study aims to examine the predictive role of classroom management in terms of discipline and time management in

classroom environment on the reading performances of students from different countries. In this sense, the following hypothesis are determined:

H1: Enabling discipline and time management in classroom predicts reading performance.
H2: Discipline and time management in classroom differ in terms of the first and the last five countries with regard to reading performance.

METHOD

This study is designed in descriptive survey model, which is used to present a past or present case or event as it is through the opinions of a group of participants (Büyüköztürk, Çakmak, Akgün, Karadeniz & Demirel, 2020). This model enables the researcher to answer questions such as what, when, where, how often, to what extent and how rather than why (Wellington, 2015).

Sampling

Data on the first and the last 5 countries in PISA 2018 were used in this research with the exception of Lebanon. The data on Lebanon did not exist in the database. Therefore, the data on Indonesia, which was above Lebanon in the list in terms of reading performance, were used in the study. Data from 10 countries with a total number of 67403 students were analyzed. The numbers of students from each country are presented in Table 1.

Table 1. The Number of Students according to Countries

Countries	f	%
B-S-J-Z (China)	11923	17,8
Singapore	6600	9,8
Macau	3747	5,6
Hong Kong	5840	8,7
Estonia	5179	7,7
Indonesia	11604	17,3
Morocco	5924	8,8
Kosovo	4641	6,9
Dominican Republic	4723	7,0
Philippines	6862	10,2
Total	67043	100,0

The names of the countries in Table 1 are listed in accordance with the countries' mean scores of reading performance. In this context, the first and the last 5 countries to be mentioned throughout the study refer to those whose students got the highest mean scores in reading performance (the first 5 countries) and to the ones the mean scores of whose students are the lowest (the last 5 countries).

The validity and reliability analysis of the data

The data on PISA 2018 were downloaded from https://www.oecd.org/pisa/data/2018database/. The scales coded ST097 and PVREAD were tested in terms of validity and reliability. The exploratory factor analysis showed

that Barlett's Test of Spherecity values were significant (p<0,05) for both scales. In addition, the Kaiser-Meyer-Olkin (KMO) values for ST097 and PVREAD scales were found ,851 and ,987 respectively. Bursal (2019) states that, in order for a scale to be applied factor analysis, KMO value must be above ,60 and the Barlett's Test of Spherecity must be statistically significant (p<0,05). Accordingly, both scales were found appropriate to perform factor analysis.

The ST097 Scale was tested in terms of validity and it was found that the scale consisted of a single factor. The factor loads of the items within the scale ranged from ,610 to ,675 and the total variance of the single factor was 62,90%. Similarly, the validity test of the PVREAD Scale revealed that the scale was comprised of a single factor as well. The factor loads of all the items in the scale were ,964 and the total variance of the scale was 96,39%. Bursal (2019) asserts that a variance at/over 50% shows that the item quality of a scale is perfect. In addition, it is stated by Ghozali (2014) that a scale with a factor load of 0.5 or more is accepted as having sufficiently strong validation to explain latent constructs. Therefore, it was concluded that both scales were valid.

Both scales were tested in terms of reliability as well. The reliability analysis for the scales showed that Cronbach Alpha coefficient values for the ST097 and PVREAD scales were ,852 and ,996 respectively. According to Ghozali (2014), the Cronbach's alpha value should be more than 0.7 so that a scale can be considered reliable. As a result, it was seen that both ST097 and PVREAD scale were reliable.

The skewness and kurtosis values of the data were found as 0,006 and 0,0405 respectively, which indicated that the data showed normal distribution. Therefore, they were analyzed through regression analysis and One-way Anova.

FINDINGS

The research aims to find out whether discipline and time management in classroom (ST097) is a significant predictor of reading performance (PVREAD). As the data of the study showed normal distribution (Skewness 0,006 and Kurtosis 0,0405), regression analysis was conducted. In regression analysis, dependent and independent variables should be continuous variables measured at least on an equal interval scale and show normal distribution (Büyüköztürk, 2010). The results of the simple linear regression analysis performed in this sense are presented in Table 2.

Table 2: Regression Analysis Results about the Predictive Role of Discipline and Time Management in Classroom on Reading Performance

	B	Std. Error	β	t value	p value
(Constant)	326,280	2,070	-	157,606	,000
ST	41,845	,657	,239	63,650	,000

R=,239 R²=,057

Table 2 presents the data regarding the predictive role of discipline and time management in classroom on reading performance, which refers to the 1st hypothesis of the study. According to the figures in the table, it can

be stated that discipline and time management in classroom is a significant predictor of reading performance with a 24% prediction rate. The data on discipline and time management in classroom, which showed normal distribution in this study, were collected through an equal interval scale including 'every lesson', 'most lessons', 'some lessons' and 'never or hardly ever' from 10 different countries. Therefore, the data were analyzed through One-way ANOVA. Because when the scores are at least on interval scale, the data show normal distribution and the samples whose mean scores are to be compared are independent, ANOVA is conducted as a parametric test (Büyüköztürk, 2010). The findings about the differences between the mean scores of the first and the last 5 countries in terms of discipline and time management in classroom are presented in Table 3.

Table 3. One-Way ANOVA Results Showing the Differences Between the First and the Last 5 Countries in terms of Discipline and Time Management in Classroom

	Sum of Squares	df	Mean Square	F	p
Between Groups	2621,106	9	291,234		
Within Groups	30368,996	67033	,453	642,836	,000
Total	32990,102	67042			

According to Table 3, the mean scores of students about discipline and time management in classroom differs in terms of the first and the last 5 countries ($F_{(9-67033)}$=642,836; p<0,05). The mean scores of countries about the discipline and time management in classroom factor are given in Table 4.

Table 4. Descriptive Analysis as to the Mean Scores of the First and the Last 5 Countries in terms of Discipline and Time Management in Classroom

Country	n	$\bar{x}$	s
1- Dominican Republic	4723	2,99	,67
2- Estonia	5179	3,04	,69
3- Hong Kong	5840	3,07	,71
4- Indonesia	11604	3,06	,68
5- Kosovo	4641	3,23	,68
6- Macao	3747	3,03	,55
7- Morocco	5924	2,77	,77
8- Philippines	6862	2,81	,65
9- Singapore	6600	3,00	,72
10- B-S-J-Z (China)	11923	3,42	,61

According to the Table 4, the mean scores of the countries in terms of discipline and time management in the classroom are 2,99 for Dominican Republic, 3.04 for Estonia, 3,07 for Hong Kong, 3,06 for Indonesia, 3,23 for Kosovo, 3,03 for Macao, 2,77 for Morocco, 2,81 for Philippines, 3,00 for Singapore and 3,42 for B-S-J-Z (China). The Scheffe test results showing the differences between the mean scores of countries in terms of order in classroom are also given separately for each country in the following tables. In this sense, Table 5 shows the sources of differences between the Dominican Republic and the other countries

Table 5. Scheffe Test Results Showing the Sources of Differences between the Dominican Republic and the Other Countries

(I)Country Identifier	(J)Country Identifier	Mean Difference (I-J)	Std. Error	Sig.
Dominican Republic	Estonia	-,05044	,01354	,127
	Hong Kong	-,08411*	,01317	,000
	Indonesia	-,06658*	,01162	,000
	Kosovo	-,24354*	,01391	,000
	Macao	-,04147	,01473	,541
	Morocco	,22131*	,01313	,000
	Philippines	,17526*	,01273	,000
	Singapore	-,00975	,01283	1,000
	B-S-J-Z (China)	-,42718*	,01157	,000

In Table 5, the source of difference between the mean score of Dominican Republic and that of the other countries are presented. According to the figures in the table, it can be understood that the difference is against Morocco and Philippines while it is in favor of Dominican Republic. On the other hand, the difference is found in favor of Hong Kong, Kosovo and B-S-J-Z (China) against Dominican Republic.

Table 6. Scheffe Test Results Showing the Sources of Differences between Estonia and the Other Countries

(I)Country Identifier	(J)Country Identifier	Mean Difference (I-J)	Std. Error	Sig.
Estonia	Dominican Republic	,05044	,01354	,127
	Hong Kong	-,03367	,01285	,651
	Indonesia	-,01614	,01125	,991
	Kosovo	-,19310*	,01360	,000
	Macao	,00897	,01444	1,000
	Morocco	,27175*	,01280	,000
	Philippines	,22570*	,01239	,000
	Singapore	,04069	,01249	,304
	B-S-J-Z (China)	-,37674*	,01120	,000

As for Estonia, it is found the difference between the mean score of Estonia and that of the other countries is in favor of Estonia against Morocco and Philippines while difference is in favor of Kosovo and China against Estonia.

Table 7. Scheffe Test Results Showing the Sources of Differences between Hong Kong and the Other Countries

(I)Country Identifier	(J)Country Identifier	Mean Difference (I-J)	Std. Error	Sig.
Hong Kong	Dominican Republic	,08411*	,01317	,000
	Estonia	,03367	,01285	,651
	Indonesia	,01754	,01080	,977
	Kosovo	-,15943*	,01324	,000
	Macao	,04264	,01409	,423
	Morocco	,30542*	,01241	,000
	Philippines	,25938*	,01198	,000
	Singapore	,07436*	,01209	,000
	B-S-J-Z (China)	-,34306*	,01075	,000

According to Table 7, which presents the differences between the mean score of Hong Kong compared with that of the other countries, the difference is seen to be against Hong Kong when compared with Kosovo and B-S-J-Z (China). On the other hand, the difference is in favor of Hong Kong against Dominican Republic, Morocco, Philippines and Singapore.

Table 8. Scheffe Test Results Showing the Sources of Differences between Indonesia and the Other Countries

(I)Country Identifier	(J)Country Identifier	Mean Difference (I-J)	Std. Error	Sig.
Indonesia	Dominican Republic	,06658*	,01162	,000
	Estonia	,01614	,01125	,991
	Hong Kong	-,01754	,01080	,977
	Kosovo	-,17696*	,01169	,000
	Macao	,02510	,01265	,915
	Morocco	,28788*	,01075	,000
	Philippines	,24184*	,01025	,000
	Singapore	,05683*	,01038	,000
	B-S-J-Z (China)	-,36060*	,00878	,000

Table 8 shows the source of difference between Indonesia and the other countries. When the mean score of Indonesia is compared with that of other countries, it is seen that the difference is in favor of Kosovo and B-S-J-Z (China). However, the difference is found in favor of Indonesia against Dominican Republic, Morocco, Philippines and Singapore.

Table 9. Scheffe Test Results Showing the Sources of Differences between Kosovo and the Other Countries

(I)Country Identifier	(J)Country Identifier	Mean Difference (I-J)	Std. Error	Sig.
Kosovo	Dominican Republic	,24354*	,01391	,000
	Estonia	,19310*	,01360	,000
	Hong Kong	,15943*	,01324	,000
	Indonesia	,17696*	,01169	,000
	Macao	,20206*	,01478	,000
	Morocco	,46484*	,01319	,000
	Philippines	,41880*	,01279	,000
	Singapore	,23379*	,01289	,000
	B-S-J-Z (China)	-,18364*	,01165	,000

The figures showing the differences between the mean score of Kosovo and that of the other countries shown in Table 9. According to the figures in the table, the difference is in favor of B-S-J-Z (China) against Kosovo. On the other hand, the difference is found in favor of Kosovo when compared with the mean scores of all the other countries namely Dominican Republic, Estonia, Hong Kong, Indonesia, Macau, Morocco, Philippines and Singapore.

Table 10. Scheffe Test Results Showing the Sources of Differences between Macao and the Other Countries

(I)Country Identifier	(J)Country Identifier	Mean Difference (I-J)	Std. Error	Sig.
Macau	Dominican Republic	,04147	,01473	,541
	Estonia	-,00897	,01444	1,000
	Hong Kong	-,04264	,01409	,423
	Indonesia	-,02510	,01265	,915
	Kosovo	-,20206*	,01478	,000
	Morocco	,26278*	,01405	,000
	Philippines	,21674*	,01367	,000
	Singapore	,03172	,01377	,807
	B-S-J-Z (China)	-,38570*	,01261	,000

Table 10 shows the differences between the mean score of Macao and that of the other countries. According to the figures given in the table, the difference is in favor of Macao when compared with Morocco and Philippines whereas it is against Macao in comparison with the mean scores of Kosovo and B-S-J-Z (China).

Table 11. Scheffe Test Results Showing the Sources of Differences between Morocco and the Other Countries

(I)Country Identifier	(J)Country Identifier	Mean Difference (I-J)	Std. Error	Sig.
Morocco	Dominican Republic	-,22131*	,01313	,000
	Estonia	-,27175*	,01280	,000
	Hong Kong	-,30542*	,01241	,000
	Indonesia	-,28788*	,01075	,000
	Kosovo	-,46484*	,01319	,000
	Macao	-,26278*	,01405	,000
	Philippines	-,04604	,01194	,094
	Singapore	-,23105*	,01205	,000
	B-S-J-Z (China)	-,64848*	,01070	,000

In Table 11, the differences between the mean score of Morocco and that of the other countries are presented. According to the figures, it can be understood that the difference is against Morocco and in favor of all the other countries with the exception of Philippines. The table shows that there is no significant difference between the mean scores of Morocco and Philippines.

Table 12. Scheffe Test Results as to the Sources of Differences between the Philippines and the Other Countries

(I)Country Identifier	(J)Country Identifier	Mean Difference (I-J)	Std. Error	Sig.
Philippines	Dominican Republic	-,17526*	,01273	,000
	Estonia	-,22570*	,01239	,000
	Hong Kong	-,25938*	,01198	,000
	Indonesia	-,24184*	,01025	,000
	Kosovo	-,41880*	,01279	,000
	Macao	-,21674*	,01367	,000
	Morocco	,04604	,01194	,094
	Singapore	-,18501*	,01160	,000
	B-S-J-Z (China)	-,60244*	,01020	,000

Table 12 shows the differences between the mean score of Philippines and the mean scores of the other countries. According to the figures in the table, it can be seen that the difference is against Philippines when compared with the mean scores of the other countries except for Morocco. The figures show that no significant difference exists between the mean scores of Philippines and Morocco in terms of order in classroom.

Table 13. Scheffe Test Results Showing the Sources of Differences between Singapore and the Other Countries

(I)Country Identifier	(J)Country Identifier	Mean Difference (I-J)	Std. Error	Sig.
Singapore	Dominican Republic	,00975	,01283	1,000
	Estonia	-,04069	,01249	,304
	Hong Kong	-,07436*	,01209	,000
	Indonesia	-,05683*	,01038	,000
	Kosovo	-,23379*	,01289	,000
	Macao	-,03172	,01377	,807
	Morocco	,23105*	,01205	,000
	Philippines	,18501*	,01160	,000
	B-S-J-Z (China)	-,41743*	,01033	,000

Considering the figures in Table 13, which presents the significant differences between the mean score of Singapore and that of the other countries, it can be stated that the difference is in favor of Singapore when compared with Morocco and Philippines. On the other hand, the differences between the mean score of Singapore and that of Hong Kong, Indonesia, Kosovo and B-S-J-Z (China) are all against Singapore.

Table 14. Scheffe Test Results as to the Sources of Differences between B-S-J-Z (China) and the Other Countries

(I)Country Identifier	(J)Country Identifier	Mean Difference (I-J)	Std. Error	Sig.
B-S-J-Z (China)	Dominican Republic	,42718*	,01157	,000
	Estonia	,37674*	,01120	,000
	Hong Kong	,34306*	,01075	,000
	Indonesia	,36060*	,00878	,000
	Kosovo	,18364*	,01165	,000
	Macao	,38570*	,01261	,000
	Morocco	,64848*	,01070	,000
	Philippines	,60244*	,01020	,000
	Singapore	,41743*	,01033	,000

In Table 14, the differences between the mean score of B-S-J-Z (China) and that of the other countries are shown. According to the figures, it is seen that there is a significant difference between the mean score of B-S-J-Z (China) and the mean scores of all the other countries in terms of the order in classroom. The difference is in favor of B-S-J-Z against the other countries without no exception.

The study is based on two hypotheses. In hypothesis-1, it is claimed that enabling discipline and time management in classroom predicts reading performance of students. The 2nd hypothesis suggests that mean scores as to discipline and time management in classroom differ in terms of the first and the last five countries with regard to reading performance.

According to the findings of the study, the 1st hypothesis of the study is supported. In other words, it is concluded that students' reading performance improves in classrooms with good and positive management of discipline and time. In literature, there are several studies that found similar results as to the relationship between classroom environment and reading performance specifically. For example; Myers, Milne, Baker, and Gingsburg (1987) concluded that undesirable behaviours that affect the discipline in classroom lead to failure and decrease in students' performance in Maths and Reading courses. Having dealt classroom environment in a relatively broader term, Pintrich et al (2003) also revealed that classroom environment affected reading performance. Putnam et al., (2003) examined the relationship between student behaviours that hinders positive interaction in classroom and the development of academic skills including reading. The researchers concluded that disabling and negative student behaviours affected such skills negatively. Similarly, Ning et al. (2015) found that positive classroom discipline resulted in higher reading performance of students. In another study with results that coincide with the results of our study, Palombit (2019) stated that students' reading performance increased as their levels of misbehaviour in classroom decreased. Similarly, in their study that focused on the relation between students' reading readiness levels and discipline management model in their study, Murunga, Jatumu and Oringa (2019) also revealed that as students' undesired and disruptive behaviours in classroom decreased, their reading performance increased.

The 2nd hypothesis is also supported by the findings of the study. According to the findings, it is revealed that the discipline and time management was better and more positive in the first five countries the reading performance of whose students were higher. On the other hand, it is found that the discipline and time management issues

such as noise, disorder, waste of time by both students and teachers, and students' attention to the teacher and the lesson are mostly problematic in the last five countries whose students have lower reading performance. This result coincides with the results of several studies in the related literature that reveal the effect of discipline and time management on reading performance (Pintrich et al., 2003; Putnam et al., 2003; Lau, 2012; Ning et al., 2015; Palombit, 2019; Murunga, Jatumu & Oringa, 2019) and on student achievement and academic performance in general (Njoroge & Nyabuto, 2014; Gazmuri, Manzi & Paredes, 2015; Baumann & Krskova, 2016; Simba, Agak & Kabuka, 2016).

However, although the hypothesis is supported to a great extent, an exceptional result is also observed in the study. According to the findings, the discipline and time management issue was rated better than those of the first five countries except for B-S-J-Z (China) by Kosovan students whose reading performances were among the last five countries with poorer reading performances. This result contradicts with the results of several studies in literature in that, as mentioned in the previous two paragraphs, there is an inverse relation between reading performance and in-class discipline and time management. Besides, Kosovon students responds as to discipline and time management issues in their classrooms also contradict with what Kurteshi and Kurteshi (2014) revealed in their studies. The researchers, who conducted a study in the Gjilani City of Kosovo, found that students mostly did not pay attention to lessons and showed disrespect in classroom. Not every student group is similar to the others and every student may react unpredictably and differently in classroom (Kimova & Sofijanova, 2019), which may be asserted as a possible explanation for this phenomenon. That is, the Kosovon students who participated in PISA 2018 may be from highly disciplined but academically poor schools. Another possible explanation may be about discipline strategies and strictness of discipline applications. Lewis (2001) states that discipline strategies based on punishment are mostly useless in promoting responsible student behavior and academic achievement. Similarly, handling the issue from the perspective of the strictness of discipline in classroom, Lau (2012) discovered that discipline issues were directly related to students' reading performance and asserted that too much authority and control of teacher with no or too little student autonomy resulted in low reading performance of students. In this respect, the Kosovon students in the PISA 2018 may have been those who had poor academic achievement as a result of being exposed to too much discipline in classroom in their countries. Also, the study by Gakure, Mukuria and Kithae (2013) may present another possible explanation. In their study on elementary school students, the researchers observed that although there were not many and important disciplinary problems in the school, students' academic performance and achievement were still very poor and concluded that discipline didn't have a statistically significant effect on academic performance and achievement, which is one study whose results coincides with the result as to the case of Kosovon students.

CONCLUSION and DISCUSSION

The study is based on two hypotheses. In hypothesis-1, it is claimed that enabling discipline and time management in classroom predicts reading performance of students. The 2nd hypothesis suggests that mean

scores as to discipline and time management in classroom differ in terms of the first and the last five countries with regard to reading performance.

According to the findings of the study, the 1st hypothesis of the study is supported. In other words, it is concluded that students' reading performance improves in classrooms with good and positive management of discipline and time. In literature, there are several studies that found similar results as to the relationship between classroom environment and reading performance specifically. For example; Myers, Milne, Baker, and Gingsburg (1987) concluded that undesirable behaviours that affect the discipline in classroom lead to failure and decrease in students' performance in Maths and Reading courses. Having dealt classroom environment in a relatively broader term, Pintrich et al (2003) also revealed that classroom environment affected reading performance. Putnam et al., (2003) examined the relationship between student behaviours that hinders positive interaction in classroom and the development of academic skills including reading. The researchers concluded that disabling and negative student behaviours affected such skills negatively. Similarly, Ning et al. (2015) found that positive classroom discipline resulted in higher reading performance of students. In another study with results that coincide with the results of our study, Palombit (2019) stated that students' reading performance increased as their levels of misbehaviour in classroom decreased. Similarly, in their study that focused on the relation between students' reading readiness levels and discipline management model in their study, Murunga, Jatumu and Oringa (2019) also revealed that as students' undesired and disruptive behaviours in classroom decreased, their reading performance increased.

The 2nd hypothesis is also supported by the findings of the study. According to the findings, it is revealed that the discipline and time management was better and more positive in the first five countries the reading performance of whose students were higher. On the other hand, it is found that the discipline and time management issues such as noise, disorder, waste of time by both students and teachers, and students' attention to the teacher and the lesson are mostly problematic in the last five countries whose students have lower reading performance. This result coincides with the results of several studies in the related literature that reveal the effect of discipline and time management on reading performance (Pintrich et al., 2003; Putnam et al., 2003; Lau, 2012; Ning et al., 2015; Palombit, 2019; Murunga, Jatumu & Oringa, 2019) and on student achievement and academic performance in general (Njoroge & Nyabuto, 2014; Gazmuri, Manzi & Paredes, 2015; Baumann & Krskova, 2016; Simba, Agak & Kabuka, 2016).

However, although the hypothesis is supported to a great extent, an exceptional result is also observed in the study. According to the findings, the discipline and time management issue was rated better than those of the first five countries except for B-S-J-Z (China) by Kosovan students whose reading performances were among the last five countries with poorer reading performances. This result contradicts with the results of several studies in literature in that, as mentioned in the previous two paragraphs, there is an inverse relation between reading performance and in-class discipline and time management. Besides, Kosovon students responds as to discipline and time management issues in their classrooms also contradict with what Kurteshi and Kurteshi (2014) revealed

in their studies. The researchers, who conducted a study in the Gjilani City of Kosovo, found that students mostly did not pay attention to lessons and showed disrespect in classroom. Not every student group is similar to the others and every student may react unpredictably and differently in classroom (Kimova & Sofijanova, 2019), which may be asserted as a possible explanation for this phenomenon. That is, the Kosovon students who participated in PISA 2018 may be from highly disciplined but academically poor schools. Another possible explanation may be about discipline strategies and strictness of discipline applications. Lewis (2001) states that discipline strategies based on punishment are mostly useless in promoting responsible student behavior and academic achievement. Similarly, handling the issue from the perspective of the strictness of discipline in classroom, Lau (2012) discovered that discipline issues were directly related to students' reading performance and asserted that too much authority and control of teacher with no or too little student autonomy resulted in low reading performance of students. In this respect, the Kosovon students in the PISA 2018 may have been those who had poor academic achievement as a result of being exposed to too much discipline in classroom in their countries. Also, the study by Gakure, Mukuria and Kithae (2013) may present another possible explanation. In their study on elementary school students, the researchers observed that although there were not many and important disciplinary problems in the school, students' academic performance and achievement were still very poor and concluded that discipline didn't have a statistically significant effect on academic performance and achievement, which is one study whose results coincides with the result as to the case of Kosovon students.

RECOMMENDATIONS

The results about both hypotheses of the study show that order in classroom in terms of discipline and time management is of great importance for academic achievement. In this sense, teachers of especially reading classes are recommended to take discipline issues more seriously in classroom management process. Also, teachers of reading classes should be meticulous specifically in planning reading lessons so that they can prevent waste of time allocated to educational activities in classroom. Especially countries whose students get low grades in PISA reading exams are definitely recommended that they revise their in-class discipline approaches in order that they can give teachers a free hand in enabling discipline and time management in their classrooms. The case of Kosovon students are contradictory to the results of most studies in literature. Therefore, researchers are recommended that they examine the in-class discipline and time management issues in Kosovon schools through both quantitative and qualitative studies so that the reason why enabling discipline and time management in Kosovon classrooms does not lead to high reading performance can be discovered.

ETHICAL TEXT

In this article, the journal writing rules, publication principles, research and publication ethics, and journal ethical rules were followed. The responsibility belongs to the author for any violations that may arise regarding the article. This study was conducted in the year 2019 using PISA 2018 data.

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