

Art. #1513, 13 pages, <https://doi.org/10.15700/saje.v38ns2a1513>

An analysis on the qualities of school life and classroom engagement levels of students

 Saadet Kuru Cetin

Department of Educational Sciences, Educational Administration, Supervision, Planning and Economics, Faculty of Education, Mugla Sıtkı Kocman University, Turkey
saaddet@gmail.com

This research explored the relationship between the pre-service teachers' quality of university life and students' engagement with classroom activities. The sample of the study consisted of 789 students enrolling teacher education programmes in 7 different Turkish state universities in 7 different regions in Turkey. To investigate student level of engagement with classroom activities, the *Student Classroom Engagement Scale (SCES)* developed by Nayir (2015) was used. To explore students' Quality of School life, scale of Quality of School life developed by Yılmaz and Çokluk-Bökeoğlu (2006) was used. Canonic correlation analysis was run through Statistical Package for the Social Sciences (SPSS) 21 programme by writing syntax to analyse data. It was found that there was a correlation between the quality of the school life of the students participating in the research, and their classroom engagement levels. It was found that the sub-dimensions of satisfaction with faculty, satisfaction with instructors and class atmosphere, and satisfaction with relations to student, which are available in the school life data set of the students, had a positive correlation with the sub-dimensions of rebellion engagement and ritual engagement available in the classroom engagement data set; whereas the sub-dimension of authentic engagement had a negative correlation.

Keywords: canonic correlation analysis; qualities of school life; student classroom engagement

Introduction

Competition, which has gained broader significance in recent years, has affected universities as well, and the indicators for the quality of the life in university have started to influence student preferences. Expectations of students regarding university life are related to their opinions about the learning environment. The most important learning environment for the students is the classroom environment. At this point it can be stated that the level of student engagement with classroom learning environment is related to the quality of the university life. Students' perceptions about university life generally refer to the school context. Student-teacher relationships, academic activities, and attitudes towards the school are influential in this context. In other words, positive perception of a student regarding university context reflects the quality of the academic activities and student-teacher relationships. Considering that academic activities and student-teacher relationships mainly take place in classroom environments, the level of student engagement with classroom activities can be believed to be related to the quality of the university life. In this sense, it is important to reveal out the views of students regarding the quality of the university life and the correlation between these views and the level of classroom engagement for the determination of the quality of education and academic success of the students. In parallel with this, the concepts of 'school' and 'efficient school' are discussed in the study first. The reason is that in many studies effective school factors are measured with academic success (Botha, 2010; Creemers & Kyriakides, 2009). The basic duty of schools is to offer a high quality education service for all students. Above all other things, schools must be efficient in order to achieve this (Balci, 2014; Botha, 2010; Creemers, 1994; Muijs, 2006).

Qualities of School Life

Students' perception of the quality of the university life can be considered to be one of the factors that influence their academic success and behaviours. The quality of university life is defined as the "well-being provided in the process of student engagement with the school life and in their relationship with the school environment" (Karatzias, Power & Swanson, 2001:91). According to another definition, quality of the school life indicates a school context support classroom engagement school security, learning and students' attachment to school (Thien & Razak, 2013). Çokluk-Bökeoğlu and Yılmaz (2007) define the quality of school life as the synthesis of positive and negative experiences about school and the special cases regarding the other feelings about school life and its results. Many writers consider the quality of school life to be an important aspect of school education (Ainley, 1999; Ainley, Foreman & Sheret, 1991; Anderson & Bourke, 2000; Flynn, 1993; Thien & Razak, 2013). In this study, student-teacher and student-student relationships are introduced as the key elements in school well-being (Pietarinen, Soini & Pyhälto, 2014; Thien & Razak, 2013; Van Maele & Van Houtte, 2011; Yoon & Järvinen, 2016).

A literature review has shown that, studies about school life are conducted for different grades, such as the primary school (Yılmaz, 2005, 2007; Yoon & Järvinen, 2016), secondary school (Ereş & Bilasa, 2017; Kang, Moon, Jang, Lim & Kim, 2016; Sari, Ötünç & Erceylan, 2007), and higher education (Çokluk-Bökeoğlu & Yılmaz, 2007; Doğanay & Sarı, 2006; Milbrath & Doyno, 1987; Özdemir, M 2012; Roberts & Clifton, 1992). General results of these studies show that, students' perceptions about the qualities of school life depend on several variables such as their expectations from school, classroom activities, their attitudes towards the teachers (Yoon & Järvinen, 2016), classroom discipline, and demographic variables such as socio-economic condition and gender

(Çokluk-Bökeoğlu & Yılmaz, 2007; Doğanay & Sarı, 2006; Özdemir, M 2012; Özdemir, S, Kılınc, Ögdem & Er, 2013).

Considering the quality of school life through the perspective for universities one can see that, besides the university's duty of information generation and knowledge transfer, quality of school life is also significant for the students being inducted into the academic community (Milbrath & Doyno, 1987). One of the most important reasons for this is the fact that universities ought to fulfil the needs and expectations of students, and provide them with necessary experiences to help them in their future jobs. These expectations are important for teacher education, because teaching practices are an important experience for pre-service teacher (Mutemeri & Chetty, 2011). A review of the studies conducted about the quality of university life has revealed the importance of the determination of student expectations and experiences about university life for the improvement of the quality and service standards of the university (Özdemir, M 2012; Özdemir, S et al., 2013). In parallel with this view, Poindexter (2006) emphasises the necessity for universities to improve the quality of university life perceived by the students in order to gain a competitive advantage for becoming more successful.

It is vital to deeply analyse the concept of school life quality in order to better comprehend the concept of faculty/school life quality. This concept is "life quality." Life quality is defined as the individual's perceptions of his/her own physical and mental well-being (Wong, Cronin, Griffith, Irvine & Guyatt, 2001). According to Taylor and Bogdan (1990), life quality refers to individual situations including different individual experiences under the same conditions. Life quality means that individuals generate different results from the same experiences (Borthwick-Duffy, 1992; Butterworth, Steere & Whitney-Thomas, 1997; Yoon & Järvinen, 2016).

Borthwick-Duffy (1992) offer three perspectives for life quality, viz.: (a) quality of the life conditions of the individual; (b) individual's contentment with the life conditions; and (c) combination of the life conditions of individual and the individual's contentment with these conditions. Quality of life at school is significant for students who spend most of their lifetime at schools (Leonard, Bourke & Schofield, 2001). Quality of school life addresses to the personal and general experiential happiness of the students at schools and reflects the individual contentment levels of students. Therefore, the quality of school life perceived by the student can be different in different types of schools (private college, secondary school, higher education institution etc.) (Ainley, 1999; Flynn, 1993; Ghotra, McIsaac, Kirk & Kuhle, 2016). Epstein and McPartland (1976b) claim that quality of school life is affected by the formal and informal

aspects of a school. Williams and Roey (1996) state that quality of school life can be assessed across five dimensions, viz.: general effect, negative effect, opportunities, teacher identity, and status. Similarly, Linnakylä (1996:70) defines the quality of school life as school welfare, and general satisfaction of the students about the school regarding negative and positive experiences in typical school activities. Linnakylä (1996:70) categorises the quality of school life as contentment with the school, teacher-student relationships, and conditions in the classroom, identity in the classroom, success, opportunities, and negative effect. Epstein and McPartland (1976a, 1976b) on the other hand, construct the concept of the quality of school life according to three basic dimensions: (a) student contentment; (b) students' commitment to classroom activities; and (c) reactions of students to their teachers. Contentment with school involves the attitudes of students towards the school; the level of commitment to classroom activities involves the students' engagement with such classroom activities; and the reaction towards teachers involves the evaluation of teacher-student relationships by the student (Schmidt, 1992).

Relationship between Quality of School Life and Classroom Engagement

Considering the factors related to the quality of school life, the level of commitment to classroom activities is observed to be significantly influential on the student perception of the quality of school life (Firestone, Rosenblum & Webb, 1987; Joseph, 1997). As can be inferred from these studies, the concept of the quality of school life is also the shared result of student attitudes towards the school, lessons, and teachers, respectively (Schmidt, 1992). In other words, commitment to classroom activities is related to the student's level of engagement to a lesson (Nayir, 2015; Thien & Razak, 2013). Most recent research shows that student engagement is related to psychological, economic, and behavioural components (Fredricks, Blumenfeld & Paris, 2004; Thien & Razak, 2013). This can be understood to influence the school life quality of the student. Student engagement is important key of educational outputs. It is grounded in the premise that the more time and effort students devote to purposeful learning experiences, the more they benefit. Learning experiences and participation in learning activities are also related to educational processes and experiences, which are important indicators of quality of education (Kinzie, McCormick & Gonyea, 2016). In other words, student engagement is related to quality of school life. Most of the literature on quality of school life and classroom engagement in research stems from studies conducted in westernised contexts (e.g. Ainley et al., 1991; Chapman, 2003; Chase, Hilliard, Geldhof, Warren & Lerner, 2014). The possibilities of the

universities in these countries increases the quality of both faculties and academics. Developing countries, such as Turkey, South Africa, and Latin America have implemented educational reforms so as to become active players in the global world and to sustain their economic growth (Kasa & Ersöz, 2016) since education is an important factor determining economic, social and political development (Oztürk, 2005). But even with these reforms, universities have not reached the desired quality.

A review of literature on student engagement reveals two different perspectives. The first of these is the student's engagement with the learning process, with sincere enthusiasm and motivation (Bomia, Beluzo, Demeester, Elander, Johnson & Sheldon, 1997); or student's desire to attend school, do homework, and follow the instructions of the teacher in the classroom (Chapman, 2003). This perspective is also known as multi-dimensional engagement stages (Wang, Eccles, Willet & Peck, 2011). In the second perspective, student engagement is defined as participation to the learning process (Chapman, 2003). According to Nayir (2015:51), despite certain differences, these two perspectives also have certain commonalities. In this respect, it is possible to say that a student's enthusiasm and authentic motivation increases with the activities at school. Consequently, the behavioural dimension of student engagement is available in both perspectives. At this point, student engagement can be stated to be based on behavioural engagement, and it can be concluded that behavioural engagement is followed by emotional and cognitive engagement.

Schlechty (2002) analyses the level of student engagement with classroom activities in five dimensions as: authentic engagement, ritual engagement, compliance, withdrawal, and rebellion. Authentic engagement refers to the student engaging with activities by attributing a meaning to such activities; ritual engagement refers to the student engaging with activities as it is his/her duty to do so; compliance refers to the student becoming engaged with activities in order to save the situation; withdrawal refers to the student withdrawing himself/herself from the learning environment; and rebellion refers to the student setting new objectives for himself/herself in the learning environment. Though in the literature the level of engagement with classroom activities is discussed according to five dimensions, in a study conducted by Nayir (2015) in Turkey, the concept was discussed according to three dimensions, namely: "rebellion engagement"; "authentic engagement"; and "ritual engagement." This study is based on the classifications of Nayir (2015).

Aim and Importance of the Study

As well as, all stages of education, especially universities, should not be structured as educational institutions where students only enter and exit classes. In universities, some activities (like social, cultural and sportive activities) must be organised so as to prepare students for the future. In this way, by taking advantage of these experiences, students can be more positive employees after the start of a work (Arslan & Akkas, 2014; Çokluk-Bökeoğlu & Yilmaz, 2007; Özdemir, M 2012). Many teachers are not successful in work life, where there are numerous psychological, institutional, social, and university background variables that influence their educational achievement. University education gives basic information to pre-service teaching students about teacher education so as to prepare them for work life and their career. The experiences that people have at university have a lasting impact on their careers (Kleinberg, 1976). Universities are far more than just teaching institutions. Today's societies are in need of individuals who are well-developed in both personal and professional domains. For this reason, researching pre-service teaching students' quality of school life in universities is about what kind of teachers they will be in both their academic and working lives. The aim of this study is based on this perspective. It is expected that prospective pre-service teaching students who are attending to their lecture and are satisfied with their school life will be influenced by their future careers and will become role models for their students.

According to the indicators of the literature review (e.g. Ainley et al., 1991; Bourke & Smith, 1989; Mok & Flynn, 1997), the quality of school life is directly related to the academic success of the students. Besides this, many studies also reveal that classroom engagement is related to academic success (e.g. Ainley et al., 1991; Chase et al., 2014; Dotterer & Lowe, 2011). For this reason, it can be concluded that successful students become engaged with classroom activities voluntarily, which in return, affects the quality of their school life. Students who are content with their faculty and their lecturers will also become more engaged with classroom activities, especially in the classes of the lecturers they love and respect the most. A review of extant literature indicates a relationship between the level of student engagement with classroom activities and their school life (Karatzias et al., 2001; Tangen, 2009; Thien & Razak, 2013). On the other hand, it is also observed that although studies about the quality of school life and classroom engagement are conducted individually, the number of studies analysing the correlation between these two concepts is not sufficient. In parallel with all these

aspects, this study aims to reveal the correlation between the quality of university life and students' engagement with classroom activities.

Based on the literature mentioned above, the research questions of this study are posed as follows:

1. Is there a statistically significant correlation between classroom engagement set and quality of school life set?
2. What is the relationship classroom engagement (rebellion engagement, authentic engagement and ritual engagement) quality of school life (satisfaction with instructors, class atmosphere and satisfaction with relations to students, satisfaction with faculty)?

Method

Research Method

A correlational research model is used in the study in parallel with the purpose of the research. Correlative research investigates patterns that aim to determine whether there is a correlation between two or multiple variables (Fraenkel & Wallen, 2006). Canonical correlation follows a correlational research model. Canonical correlation analysis is the most general of the multivariate techniques (Tabachnick & Fidell, 2007). The relationship between classroom engagement levels and the quality of school life is examined through canonical correlation analysis.

Study Group

The convenient case sampling among the purposeful sampling methods is used in the determination of the study group. Eight hundred and fifty attitude scales were administered and 789 of them returned (response rate 93%). The study group here consists of 789 pre-service teaching students enrolling teacher education programmes in total, which are

gathered from seven universities in Turkey. All of the universities involved in the study were public universities that followed the same teacher education program, offered by the Higher Education Council. Pre-service teachers who participated in the study were 3rd Grade and 4th Grade students. Four hundred and fifty of the participants in the study group (57%) are 3rd Grade and 399 of them are 4th Grade students (43%) between the ages of 20 and 32, but the majority of them were at the age of 21 and 23.

Two hundred and forty six of the participants in the study group (31.17%) are males, and 534 of them are females (67.68%). Participant distribution is as follows: Hacettepe University $n = 138$ (17.5%), Yıldız Technical University $n = 136$ (17.2%), Mugla Sıtkı Kocman University $n = 212$ (21.9%), Gaziosmanpaşa University $n = 149$ (8.1%), Giresun University $n = 64$ (8.1%), Mersin University $n = 30$ (3.8%) and Yüzüncü Yıl University $n = 60$ (7.6%).

One hundred and fifty one math pre-service teachers, $n = 142$ Pre-Service Primary Teachers, $n = 70$ German language pre-service teachers, $n = 73$ pre-service English as a second language teachers (ESL) teachers; $n = 94$ psychological counselling and guidance pre-service teachers; where 123 science pre-service teachers have participated in the study.

Data Collection Tools

Student classroom engagement scale

The SCES used in the research is developed by Nayir (2015). SCES consists of 28 items. Table 1 presents the Cronbach's Alpha reliability coefficients estimated through sub-dimensional sample items and reliability study.

Table 1 Reliability coefficients of the SCES

Sub-scales	Cronbach alpha (Original scale)	Cronbach alpha (This scale)
Rebellion engagement (ReE)	0.86	0.85
Authentic engagement (AE)	0.83	0.88
Ritual engagement (RiE)	0.81	0.83

Scale of quality of school life. The scale of quality of school life is developed by Yilmaz and Çokluk-Bökeoğlu (2006) and there are 15 items in

the scale. Table 2 presents the Cronbach's Alpha reliability coefficients estimated through sub-scale sample items and reliability study.

Table 2 Reliability coefficients of the quality of school life sub-scales

Sub-scale	Cronbach's Alpha (Original scale)	Cronbach's Alpha (This scale)
Satisfaction with Instructors (SI)	0.83	0.75
Class Atmosphere and Satisfaction with Relations to Students (CASRS)	0.67	0.80
Satisfaction with Faculty (SF)	0.75	0.72

In order to provide validity evidence for the interpretations of the results of the present study, confirmatory factor analyses (CFA) were conducted with the data obtained from administration of each of the questionnaires, *Student Classroom Engagement Scale* and *Quality of School Life* as

shown in Table 3. Of the six fit statistics reported, all of them were calculated, in the optimal range (Goodness of Fit Index [GFI] > 0,90 and Standardised Root Mean Square Residuals [SRMR] < 0,10, Comparative fit index [CFI] > 0,90; χ^2/df < 3]).

Table 3 Fit statistics for the instruments

Scale	Fit statistics					
	χ^2	χ^2/df	<i>p</i>	GFI	SRMR	CFI
SCES	699.94	2.01	0.00	0.86	0.059	0.96
<i>Quality of school life</i>	718	1.96	0.00	0.91	0.055	0.94

Data Analysis

The relationship between classroom engagement levels and the quality of school life is studied through canonical correlation analysis, whereas multiple regression analysis is the examination of the correlation between one variable (Y) and two or more variables (X1, X2, ... Xp). Canonical correlation can be defined as the concurrent examination of the correlation between several Y variables and several X variables, as shown in Figure 1 (Bordens & Abbott, 2011; Manly, 2005).

As is seen in Table 4 and Figure 1, there are six variables in total in the data set used in the study. Three of these are the variables of rebellion, authentic engagement and ritual engagement under classroom engagement dimension; and the remaining three are the variables of class atmosphere

and satisfaction with relation to student classroom environment and the relationship between students, satisfaction with instructors, and satisfaction with faculty. In order to ensure the reliability of the findings of the canonical correlation analysis, the study groups are advised to have an amount of participants that are 20 times more than the total amount of variables available in the data sets (Stevens, 2012). Accordingly, there must be minimum of 120 participants in the study group in order to ensure the reliability of the study findings. A study sample group of 789 participants is determined to be sufficient for the reliability of the study. Consequently, it can be stated that the number of participants in the study group is sufficient for the reliability of the study findings.

Table 4 Data set variables

Student classroom engagement scale	Scale of quality of faculty life
Rebellion engagement (ReE)	Satisfaction with instructors (SI)
Authentic engagement (AE)	Class atmosphere and satisfaction with relations to students (CASRS)
Ritual engagement (RiE)	Satisfaction with faculty (SF)

Before conducting the canonical correlation analysis, the datasets were studied and hypotheses were tested. Twenty-five students were excluded from the study as they failed to answer more than 5% of the assessment items. Two of the surveys were excluded from the study as their *z*-values were outside the critical values ($z = \pm 3.26$). Mahalanobis Distance Coefficients were calculated, and no outlier was found according to Mahalanobis Distance Coefficients. Levene's Test and Box's M analysis were conducted in order to test the covariance hypothesis, and the variables were found

to have homogeneous variance. Correlation coefficients between the variables and variance inflation factors (VIFs) and Tolerance values were studied in order to test the multicollinearity hypothesis, and no multi-collinearity was found. Kurtosis and skewness coefficients and the Kolmogorov-Smirnov test showed that the data presented a normal distribution. The level of significance of the canonical correlation analysis was estimated to be 0.05 and was realised through syntax text.

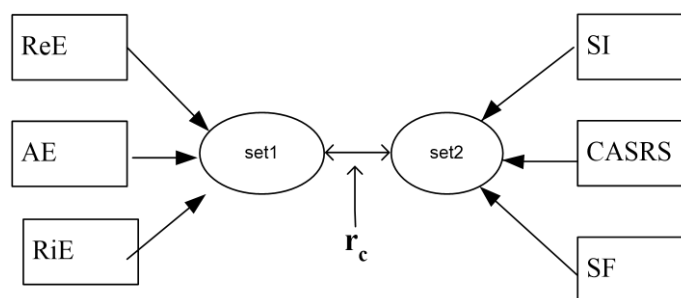


Figure 1 Illustration of the first function in a canonical correlation analysis with three predictors and three criterion variables

Findings

Table 5 presents the descriptive values and correlation analysis of the correlation between the

quality of the school life of the research participant students and their level of classroom engagement.

Table 5 Relationships between quality of school life and student classroom engagement

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5
RE(1)	21.5	7.07					
AE(2)	27.7	5.9	-0.39				
RE(3)	16.7	6.3	0.56	-0.42			
CASRS(4)	44.9	8.9	-0.35	0.19	-0.28		
SI(5)	36.3	6.4	-0.34	0.26	-0.28	0.57	
SF(6)	20.5	4.2	-0.33	0.22	-0.34	0.52	0.58

As is seen in Table 5, correlations between the variables of rebellion engagement, authentic engagement and ritual engagement in the first data variable set of the canonical correlation change between 0.39 and 0.56. Analysis of the correlations between the variables of the class atmosphere and satisfaction with relations to student, satisfaction with instructors and satisfaction with faculty, which are available in the second data set, shows correlation coefficients between the variables change between 0.52 and 0.582. Correlation coefficients between the first variable set and the second variable set are found to change between 0.19–0.57.

In canonical correlation analysis, the multi-variable significance test was used first in order to determine whether the canonical model obtained was statistically significant or not. These significance tests consist of four individual tests called Pillais, Hotellings, Wilks and Roys. Each of these tests can also be turned into a statistically more recognised *F* test in order to determine the significance of the canonical model that emerges at the end of the analysis. As the theoretical basis of all these four tests is different, the *F*-value estimated for each test is different, too. Yet, due to its convenience for implementation in research, the interpretations are mostly based on the Wilks λ test (Stevens, 2012).

Table 6 Multivariate test of significance

	Value	Approximate <i>F</i>	Hypothesis <i>df</i>	Error <i>df</i>	Significant of <i>F</i>
Pillais	0.22	16.80	9	190	0.00
Hotellings	0.27	19.02	9	189	0.00
Wilks	0.78	18.05	9	154	0.00
Roys	0.20		9		

Note. *S* = 3, *M* = -1/2, *N* = 315 1/2.

The findings presented in Table 6 show that the canonical method of the study is statistically significant [Wilks's $\lambda = .78346$, $F(9,154) = 18.05$, $p < .001$]. On the other hand, the significance of these studies does not reveal any information about the strength of the correlation. Considering the fact that in research where the number of participants in the study group is high, even the smallest *F* values that are not significant in practice can appear to be statistically significant, and it is vital to make an assessment regarding the size of effect besides the significance of the model achieved in the canonical correlation analysis. Wilks' λ value, which is the adverse effect size, is used here. Wilks λ refers to the unexplained variance between the canonical variables of the model obtained at the end of the analysis. Thus; "1- λ " value indicates the amount of covariance in canonical variables, and it can be interpreted as the r^2 value in regression analysis. For the Wilks λ value in the table, "1 λ " value is estimated as 0.2165. According to this, it can be stated that the covariance between the data sets of the quality of the school life of students and classroom engagement is 21.6 percent. In canonical correlation analysis, it is necessary to individually analyse the significance of each canonical function

of the model, as well as the general statistical significance of the canonical model. When the significance of the canonical model obtained through canonical correlation is tested, the operation is made with the cumulative values of the canonical functions that are obtained at the end of the analysis. Therefore, whereas some of the canonical functions are statistically significant in a canonical model, where the cumulative values of canonical functions are statistically significant, the correlations between canonical variables can be rather low in some other canonical models and the correlation can be considered to be statistically insignificant. Consequently, it is necessary to individually analyse the significance of each canonical function aside from the entire canonical model, when interpreting the results of the canonical correlation analysis. Core values and canonical correlation values of canonical functions are studied in order to determine which canonical functions are significant. In this research, three canonical functions are obtained at the end of the canonical correlation analysis, which is conducted to determine the correlation between the data sets of the quality of school life and classroom engagement. Core values and canonical correlation values of these functions are presented in Table 6.

Table 7 Canonical correlation analysis results between quality of school life and student classroom engagement

Roods	Eigenvalue	%	Cumulative %	r_c	r_c^2
1	0.25	92.37	92.37	0.44	0.20
2	0.10	5.33	97.70	0.11	0.14
3	0.00	2.29	100	0.07	0.00

According to the findings shown in Table 7 and Figure 2, the canonical correlation value of the first canonical function is 0.44. This means that the data sets of classroom engagement and the quality of school have a 20% covariance in the first canonical function. The second canonical correlation estimates the canonical correlation value revealing out the maximum correlation between the two canonical variables, which is ignored in the first canonical function. This value is estimated to be 0.11 for the second canonical function. This means that the data sets of the quality of school life, and study skills, respectively, have a 14% covariance in the second canonical function. When in the first two canonical functions the covariance of the data sets of classroom engagement and the quality of school life is deducted, the canonical correlation value of the third canonical function is found, 0.07. This means that the data sets of the quality of school life and classroom engagement only have a 0.6% covariance in the third canonical function. Individual analysis of the significance of each canonical function in the canonical correlation analysis also makes it possible to determine which functions that emerge at the end of the canonical correlation analysis ought to be interpreted. Tabachnick and Fidell (2007) state that, only the statistically significant canonical functions that are available in the canonical correlation analysis ought to be interpreted. According to Sherry and Henson (2005), the canonical value estimated for each function must be compared in order to determine which canonical functions must be interpreted. The amount of the functions to be interpreted must correspond to the amount of functions at which rank the sum of the squares of the values equals to “ $1-\lambda$ ” or exceeds this value. According to these estimations, suggested by Sherry and Henson (2005), the covariance of the canonical models in the entire model can be of lower value than the total value of the covariance obtained from all canonical functions. This is due to the nature of the orthogonal functions. In canonical correlation

analysis, the second canonical variable couple reveals out the maximum correlation between the two canonical variables that are ignored when estimating the correlation between the first canonical variable couple and the second canonical function must be orthogonal to the first canonical function. Similarly, each canonical function estimated must be orthogonal to the functions preceding it. Therefore, the sum of the squares of the canonical correlations obtained for all functions can be greater than the amount of covariance of the canonical variables for the canonical model. Size reduction analysis can also be used in order to determine to what extent each canonical function can explain the covariance of the data sets in the canonical correlation analysis. In size reduction analysis, canonical functions are sequenced in hierarchical order according to the correlation value between the canonical variables. It is possible to look at the first line of the size reduction analysis table to determine whether the canonical model is statistically significant or not, as well as to determine the degree of covariance between the data sets. It is possible to examine the second line of the size reduction analysis table to determine whether there is a significant correlation between the data sets in the canonical functions remaining once deducting the first function, where the correlation between canonical variables is the highest, and to determine the amount of covariance between the data sets. When one comes to the final line of the size reduction analysis table by following these steps, it is possible to determine the amount of the covariance of the data sets for the canonical function where the correlation between canonical variables is the lowest. Generally, the correlation value between the canonical variables for this final canonical function is statistically insignificant (Sherry & Henson, 2005). The results of the size reduction analysis for the data sets of the classroom engagement and quality of the school life of students are presented in Table 7.

Table 8 Dimension reduction analysis

Roods	Wilks L.	F	Hypothesis df	Error df	Significant of F
1 to 3	0.78	18.05	9	1540.71	0.00
2 to 3	0.97	3.27	4	1268.00	0.01
3 to 3	0.99	3.94	1	635	0.5

According to the findings shown in Table 8, the canonical model (function 1 to 3) consisting of the cumulative values of the three canonical functions obtained at the end of the analysis, is statistically significant [Wilks's $\lambda = .78$, $F(9,1540,71) = 18.05$, $p < .001$]. There is a statistically significant

correlation between the data sets of classroom engagement and the quality of school life for the two canonical functions (function 2 to 3) remaining after the deduction of the first canonical function, where the correlation between canonical variables is at its highest [Wilks's $\lambda = .97$, $F(4,1268,0) = 3.27$,

$p < .05$]. According to the Wilks λ value of this correlation, which consists of the cumulative values of the second and third functions, there is a 3% covariance between the data sets of classroom engagement and the quality of school life [$1 - \lambda = .030$]. For the third function remaining after the deduction of the first two functions (function 3 to 3), the correlation between the canonical variables is statistically insignificant [Wilks's $\lambda = 0.99$, $F(1,635) = 3.94$, $p > .05$]. In this function, where the correlation between canonical variables is the weakest, there is only an 0.11% covariance between the data sets of classroom engagement and the quality of school life [$1 - \lambda = .0011$]. According to this, it is observable that the answers given to the scales by the pre-service teachers participating in the study are related to the first canonical models between quality of school life and classroom engagement.

Another question related to the canonical correlation analysis aims to determine how the variables available in the data sets contribute to the correlations between canonical variables. Standardised coefficients and structural coefficients belonging to canonical functions are used to answer this question. In this research, standardised coefficients and structural coefficients of the first and second canonical functions between canonical variables were studied in order to determine how much the rebellion engagement, authentic engagement, and ritual engagement variables available in the classroom engagement data set and classroom

environment and the relationship between students, satisfaction with instructors and satisfaction with school variables available in the quality of the school life data set, contribute to the correlation between the canonical variables. The findings are presented in Table 8. In this presentation, standardised coefficients of canonical functions are shown as " r_c ," and structural coefficients are shown as " r_s ." The covariance of rebellion engagement, authentic engagement and ritual engagement variables shared with classroom engagement data set and shared with the quality of school life data set is shown as " r_c^2 ." Additionally, of the r_c^2 values of the first and second functions belonging to rebellion engagement, authentic engagement and ritual engagement variables available in classroom engagement data set and class atmosphere and satisfaction with relations to students, satisfaction with instructors and satisfaction with school variables available in the quality of school life data set helps in determining the extent of the canonical model's covariance shared by these variables with the data sets in which they are available. This value is shown as " H_2 ." Value 0.45 is taken as a basis for determining whether the covariance between the variables and the data sets they are in, is significant or not. Accordingly, it can be stated that variables with r_s and H_2 values at or above 0.45 contribute greatly to the data sets in which they are available. This measure was determined based on the view that items with a factor load of 0.45 or above are deemed to be positive value (Sherry & Henson, 2005).

Table 9 Canonical solution for quality of school life and student classroom engagement for functions 1 and 2

Variables	Function 1			Function 2		
	Coef.	r_c	$r_c^2(\%)$	Coef.	r_c	$r_c^2(\%)$
ReE	0.61	0.914	0.83	0.394	0.12	0.015
AE	-0.19	-0.60	0.36	-0.829	-0.53	0.28
RiE	0.38	0.81	0.67	-1.05	-0.47	0.22
r_c^2			0.44			0.11
SF	-0.38	0.82	0.67	0.140	-0.01	0.00
SI	-0.35	0.83	0.70	-1.17	-0.50	0.25
CASRS	-0.45	0.85	0.73	0.0	0.40	0.16

Note. Structure coefficients (r_s) greater than $|\underline{.45}|$ are underlined; Coef = standardised canonical function coefficient; r_s = structure coefficient.

According to the findings presented in Table 9, the contribution of rebellion engagement, authentic engagement and ritual engagement variables in the first canonical function to the data set of classroom engagement was above value .45. In parallel with this, it can be stated for the first canonical function that the contribution of rebellion and ritual engagement variables to the classroom engagement data set is more significant than the contribution of authentic engagement variable to the classroom engagement data set. Again, according to the findings of Table 8 in the first canonical function, the contribution of classroom environment and the relationship between students, satisfaction with instructors and satisfaction with school variables to

the quality of school life data set was above value .45. Thus, it can be concluded that in the first canonical function, the contribution of rebellion and authentic engagement variables to the quality of school life data set is more significant than the contribution of the coefficient of the authentic engagement variable. In canonical functions obtained from canonical correlation analysis, one can examine the marks of the variables (with structural coefficients of .45 or above) that significantly contribute to their data sets in order to determine the direction of the correlation between these variables. In the first canonical function, where the structural coefficients of rebellion and authentic engagement variables is significant, the marks of

both rebellion and ritual engagement variables are positive. Therefore, it can be stated that the direction of the correlation between rebellion and authentic variables is the same. Whereas, the structural coefficient in the authentic engagement variable is above .45, and its effect is not as great as that of the other two variables. The mark of authentic engagement is negative. Accordingly, while the correlation between rebellion and ritual engagement variables is in the same direction, they have an opposite correlation with authentic engagement. Examination of the variables available in the school life quality data set in the first canonical function reveals out a positive mark for all variables. These findings show that, as the rebellion and ritual engagement of the students increase in classroom engagement, their authentic engagement decreases.

This reveals that as the authentic engagement of students increases, classroom environment and the relationship between students, satisfaction with school, and satisfaction with instructors decrease. According to Table 7, r_c^2 value for the first canonical function is estimated as 20.00. This value shows that there is a 20% covariance between classroom engagement and school life quality data sets in the first canonical function.

It was concluded that there is a positive and significant canonical relationship between classroom engagement and quality of school life evident in this study. It is thus concluded that pre-service teaching students with ReE, AE, and RiE, were those with a greater quality of school life, which in other words, means that student engagement is related to quality of school life.

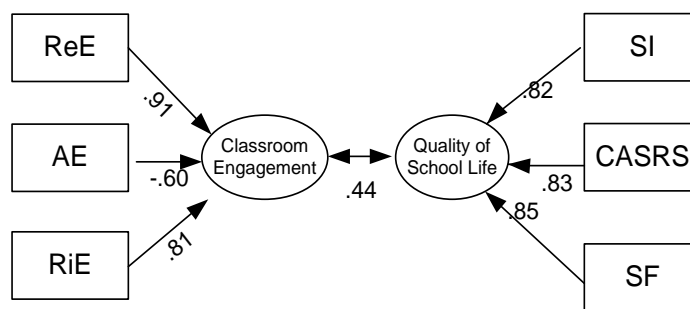


Figure 2 Canonical correlation results

The covariance between classroom engagement and school life quality data sets is 20%. Based on the findings of the canonical correlation analysis, it can be concluded that the correlation between classroom engagement and school life quality is as shown in Figure 2 and Figure 3.

Eigenvalue was calculated as .19 ($\lambda_i = r_c^2$) between classroom engagement set and quality of school life set. The R_c coefficient, which can take on any positive value between 0–1 along with the multi-way regression analysis R coefficient of r_c^2 can be considered to be the ratio of the variance shared

between the two canonical sets (Sherry & Henson, 2005). It is determined as a result of the canonical correlation analysis that pre-service teachers with high rebellion engagement, authentic engagement and ritual engagement and quality of school life have higher satisfaction with instructors, class atmosphere, and satisfaction with relations to students, and satisfaction with faculty; and that the increase of 1 in the standard deviation of their classroom engagement levels will cause an increase of .19 standard deviation in their quality of school life fields.

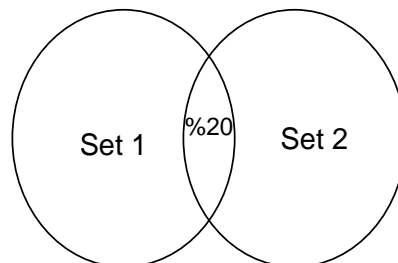


Figure 3 Common variance between two data sets

Discussion

The main purpose of this study was to explore whether pre-service teaching students’ quality of university life and students’ engagement with classroom activities reveal out the correlation. In this

way, this study points out that there is a positive correlation between classroom engagement and school life qualities of pre-service teaching students. Such knowledge is important because positive

classroom atmosphere contributed significantly to students' quality of school life, where school life is relevant to their future lives, and creates career opportunities for the student (Mok, 2002). This study aims to reveal the correlation between the school life quality and classroom engagement of university students. Two canonical functions belonging to the correlation between school life quality of the participants and their classroom engagement were obtained at the end of the analysis and one of these two canonical functions was found to be statistically significant.

The first canonical function was estimated in such a way that there would be a maximum correlation between classroom engagement and school life quality data sets and a 20% covariance was found between classroom engagement and school life quality data sets available in the first canonical function. A literature review shows that this finding is also supported by the findings of the study conducted by Thien and Razak (2013) in Malaysia, and by Mok (2002) in Australia. Furthermore, the significant correlation between the quality of school life and classroom engagement is also supported, with the judgement that classroom engagement is correlated with several cognitive and sensory variables that are influential on the students' behaviours in the learning-teaching process (Pintrich & Schrauben, 1992; Skinner & Belmont, 2003; Wang et al., 2011). Furthermore, a positive correlation was found between rebellion, ritual engagement, and authentic engagement variables available in the classroom engagement data set in the first canonic function; and class atmosphere and satisfaction with relations to students; satisfaction with instructors; and satisfaction with school variables available in the school life quality data set. In parallel with these, it can be concluded that there is a positive correlation between classroom engagement and school life qualities of the participants.

It was also found at the end of the canonical correlation analysis that, there is a negative correlation between authentic engagement in the classroom engagement data set and the variables of satisfaction with instructors and class atmosphere and satisfaction with relations to students, which are available in the school contentment data set. A positive correlation was found between the rebellion engagement and ritual engagement variables available in the classroom engagement data set; the variables of classroom environment; and the relationship between students, which are available in the school contentment data set. It can be stated that the variables of satisfaction with faculty, satisfaction with instructors; and class atmosphere and satisfaction with relations to student; combine together to form the quality of the school life, and that students who are authentically engaged with the classroom activities are not content with the school

life. This can be due to the fact that students have expectations from the school related to the old buildings, insufficient internet infrastructure, few cultural activities, and an insufficient amount of lecturers. Evaluations of university students regarding education services include both the student-lecturer relationships in the classroom and the conditions and behaviours facilitating learning (Ekinci & Burgaz, 2007). Research about the student contentment regarding education process have revealed that learning is significantly correlated with the students' contentment with the lesson (Clark, Walker & Keith, 2002; Guolla, 1999). This research finding conforms with the judgment that, when students get authentically engaged with the classroom, their expectations from the school increase; and when such expectations are not fulfilled, then the students develop negative attitudes about the school life.

Conclusion

A correlation was found in this way between the quality of the school life of the students participating in the research and their classroom engagement levels. Accordingly, it was concluded that the sub-dimensions of satisfaction with faculty, satisfaction with instructors, and class atmosphere and satisfaction with relations to students, which are available in the school life data set of the students had a positive correlation with the sub-dimensions of rebellion engagement and ritual engagement, which are available in the classroom engagement data set; whereas the sub-dimension of authentic engagement had a negative correlation. Further studies can be suggested to focus on the factors such as gender and socio-economic levels of students, which are influential on the perceptions and attitudes of students in different classes at different universities. Qualitative studies can be conducted in order to deeply analyse the correlations obtained in this research. Besides this, analysis can be made in order to determine whether classroom engagement is greater in particular lessons or not, the reasons for this and how these perceptions of the students differ.

Note

- i. Published under a Creative Commons Attribution Licence.

References

- Ainley J 1999. *Schools and the social development of young Australians: Frameworks, outcomes and influences*. Paper presented at the National Social Outcomes of Schooling Forum, Australia.
- Ainley J, Foreman J & Sheret M 1991. High school factors that influence students to remain in school. *The Journal of Educational Research*, 85(2):69–80. <https://doi.org/10.1080/00220671.1991.10702816>
- Anderson LW & Bourke SF 2000. *Assessing affective characteristics in the schools* (2nd ed). Mahwah, NJ: Lawrence Erlbaum Associates.
- Arslan S & Akkas OA 2014. Quality of college life (QCL) of students in Turkey: Students' life

- satisfaction and identification. *Social Indicators Research*, 115(2):869–884.
<https://doi.org/10.1007/s11205-013-0235-9>
- Balcı A 2014. *Etkili okul ve okul gelistirme* [Effective school and school Development] (Vol. 7). Ankara, Turkey: Pegem Akademi.
- Bomia L, Beluzo L, Demeester D, Elander K, Johnson M & Sheldon B 1997. *The impact of teaching strategies on intrinsic motivation*. Champaign, IL: ERIC Clearinghouse on Elementary and Early Childhood Education.
- Bordens KS & Abbott BA 2011. *Research design and methods: A process approach* (8th ed). New York, NY: McGraw-Hill.
- Borthwick-Duffy SA 1992. Quality of life and quality of care in mental retardation. In L Rowitz (ed). *Mental retardation in the year 2000*. New York, NY: Springer. <https://doi.org/10.1007/978-1-4613-9115-9>
- Botha RJ 2010. School effectiveness: Conceptualising divergent assessment approaches. *South African Journal of Education*, 30(4):605–620.
<https://doi.org/10.15700/saje.v30n4a391>
- Bourke S & Smith M 1989. *Quality of school life and intentions for further education: The case of a rural high school*. Paper presented at the Annual Conference of the Australian Association for Research in Education, Adelaide, November–December. Available at
<https://www.aare.edu.au/data/publications/1989/bo-urk89029.pdf>. Accessed 6 November 2018.
- Butterworth J, Steere DE & Whitney-Thomas J 1997. Using person-centered planning to address personal quality of life. In RL Schallock (ed). *Quality of life* (Vol. 2). Washington, DC: American Association on Mental Retardation.
- Chapman E 2003. Alternative approaches to assessing student engagement rates. *Practical Assessment*, 8(13):1–7.
- Chase PA, Hilliard LJ, Geldhof GJ, Warren DJA & Lerner RM 2014. Academic achievement in the high school years: The changing role of school engagement. *Journal of Youth and Adolescence*, 43(6):884–896. <https://doi.org/10.1007/s10964-013-0085-4>
- Clark RK, Walker M & Keith S 2002. Experimentally assessing the student impacts of out-of-class communication: Office visits and the student experience. *Journal of College Student Development*, 43(6):824–837.
- Çokluk-Bökeoğlu Ö & Yılmaz K 2007. Üniversite öğrencilerinin fakülte yaşamının niteliğine ilişkin görüşlerinin çeşitli değişkenler açısından incelenmesi [Analysis of university students' views about the quality of faculty life using various variables]. *Ankara Üniversitesi Eğitim Fakültesi Dergisi*, 40(2):179–204. Available at
<http://dergipark.gov.tr/download/article-file/509060>. Accessed 16 October 2018.
- Creemers B & Kyriakides L 2009. Situational effects of the school factors included in the dynamic model of educational effectiveness. *South African Journal of Education*, 29(3):293–315. Available at
<http://www.sajournalofeducation.co.za/index.php/saje/article/view/270/166>. Accessed 16 October 2018.
- Creemers BPM 1994. The history, value and purpose of school effectiveness studies. In D Reynolds, BPM Creemers, PS Nesselrodt, EC Shaffer, S Stringfield, & C Teddlie (eds). *Advances in school effectiveness research and practice*. Oxford, England: Pergamon.
- Doğanay A & Sarı M 2006. Öğrencilerin üniversitedeki yaşam kalitesine ilişkin algılarının demokratik yaşam kültürü çerçevesinde değerlendirilmesi: Çukurova Üniversitesi Örneği [Evaluation of students' perceptions about quality of life in the framework of democratic life culture: Çukurova University Case]. *Türk Eğitim Bilimleri Dergisi*, 4(2):107–128. Available at
<http://dergipark.gov.tr/download/article-file/256367>. Accessed 11 October 2018.
- Dotterer AM & Lowe K 2011. Classroom context, school engagement, and academic achievement in early adolescence. *Journal of Youth and Adolescence*, 40(12):1649–1660. <https://doi.org/10.1007/s10964-011-9647-5>
- Ekinci CE & Burgaz B 2007. Hacettepe Üniversitesi öğrencilerinin bazı akademik hizmetlere ilişkin beklenti ve memnuniyet düzeyleri [The expectation and satisfaction levels of the students at Hacettepe University with respect to academic services]. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 33:120–134. Available at
<http://www.efdergi.hacettepe.edu.tr/yonetim/icerik/makaleler/1016-published.pdf>. Accessed 9 October 2018.
- Epstein JL & McPartland JM 1976a. *Classroom organization and the quality of school life* (Report No. 215). Baltimore, MD: Center for the Study of Social Organization of Schools, Johns Hopkins University. Available at
<https://files.eric.ed.gov/fulltext/ED135041.pdf>. Accessed 25 October 2018.
- Epstein JL & McPartland JM 1976b. The concept and measurement of the quality of school life. *American Educational Research Journal*, 13(1):15–30.
<https://doi.org/10.3102%2F00028312013001015>
- Ereş F & Bilasa P 2017. Middle school students' perceptions of the quality of school life in Ankara. *Journal of Education and Learning*, 6(1):175–183. <https://doi.org/10.5539/jel.v6n1p175>
- Firestone WA, Rosenblum S & Webb A 1987. *Building commitment among students and teachers: An exploratory study of ten urban high schools*. Philadelphia, PA: Research for Better Schools. Available at
<https://files.eric.ed.gov/fulltext/ED303535.pdf>. Accessed 23 December 2016.
- Flynn M 1993. *The culture of Catholic schools: A study of Catholic school: 1972-1993*. Homebush, Australia: St Paul's Publications.
- Fraenkel JR & Wallen NE 2006. *How to design and evaluate research in education* (6th ed). New York, NY: McGraw-Hill.
- Fredricks JA, Blumenfeld PC & Paris AH 2004. School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*, 74(1):59–109.
<https://doi.org/10.3102%2F00346543074001059>
- Ghotra S, McIsaac JLD, Kirk SFL & Kuhle S 2016. Validation of the “quality of life in school”

- instrument in Canadian elementary school students. *PeerJ*, 4:1567. <https://doi.org/10.7717/peerj.1567>
- Guolla M 1999. Assessing the teaching quality to student satisfaction relationship: Applied customer satisfaction research in the classroom. *Journal of Marketing Theory and Practice*, 7(3):87–97. <https://doi.org/10.1080/10696679.1999.11501843>
- Joseph BJ 1997. The relationship between the quality of school life and students' perception of power in middle schools. PhD dissertation. New Orleans, LA: The University of New Orleans.
- Kang HY, Moon SH, Jang HJ, Lim DH & Kim JH 2016. Validation of "quality-of-life questionnaire in Korean children with allergic rhinitis" in middle school students. *Allergy, Asthma & Respiratory Disease*, 4(5):369–373. <https://doi.org/10.4168/aard.2016.4.5.369>
- Karatzias A, Power KG & Swanson V 2001. Quality of school life: Development and preliminary standardisation of an instrument based on performance indicators in Scottish secondary schools. *School Effectiveness and School Improvement*, 12(3):265–284.
- Kasa B & Ersöz Y 2016. Pros and cons: Compulsory 12 year education reform in Turkey. *South African Journal of Education*, 36(2):Art. # 1197, 10 pages. <https://doi.org/10.15700/saje.v36n2a1197>
- Kinzie J, McCormick AC & Gonyea RM 2016. *Using student engagement results to oversee educational quality*. Available at <https://www.agb.org/trusteeship/2016/januaryfebruary/using-student-engagement-results-to-oversee-educational-quality>. Accessed 1 May 2017.
- Kleinberg JL 1976. Adolescent correlates of occupational stability and change. *Journal of Vocational Behavior*, 9(2):219–232. [https://doi.org/10.1016/0001-8791\(76\)90080-4](https://doi.org/10.1016/0001-8791(76)90080-4)
- Leonard C, Bourke S & Schofield N 2001. *Student quality of school life differences within and between primary schools*. Paper presented at the Annual Conference of the Australian Association for Research in Education, Fremantle, 4 December. Available at <https://www.aare.edu.au/data/publications/2001/leo01130.pdf>. Accessed 26 October 2018.
- Linnakylä P 1996. Quality of school life in the Finnish comprehensive school: A comparative view. *Scandinavian Journal of Educational Research*, 40(1):69–85. <https://doi.org/10.1080/0031383960400105>
- Manly BFJ 2005. *Multivariate statistical methods: A primer* (3rd ed). London, England: Chapman & Hall/CRC.
- Milbrath LW & Doyno V 1987. A study of the quality of university life: SUNY at Buffalo. *Social Indicators Research*, 19(2):173–190. <https://doi.org/10.1007/BF00300275>
- Mok M & Flynn M 1997. Quality of school life and students' achievement in the HSC: A multilevel analysis. *Australian Journal of Education*, 41(2):169–188. <https://doi.org/10.1177%2F000494419704100206>
- Mok MMC 2002. Determinants of students' quality of school life: A path model. *Learning Environments Research*, 5(3):275–300. <https://doi.org/10.1023/A:1021924322950>
- Muijs D 2006. New directions for school effectiveness research: Towards school effectiveness without schools. *Journal of Educational Change*, 7(3):141–160. <https://doi.org/10.1007/s10833-006-0002-7>
- Mutemeri J & Chetty R 2011. An examination of university-school partnerships in South Africa. *South African Journal of Education*, 31(4):505–517. <https://doi.org/10.15700/saje.v31n4a325>
- Nayir KF 2015. The relationship between students' engagement level and their attitudes toward school. *The Anthropologist*, 20(1-2):50–61. <https://doi.org/10.1080/09720073.2015.11891723>
- Özdemir M 2012. Üniversite öğrencilerinin okul yaşamının niteliğine ilişkin algılarının cinsiyet ve fakülte değişkenlerine göre incelenmesi [Examination of university students' perceptions on the quality of school life based on gender and faculty]. *Kuram ve Uygulamada Eğitim Yönetimi* [Educational Administration: Theory and Practice], 18(2):225–242. Available at <http://www.kuey.net/index.php/kuey/article/view/941>. Accessed 18 September 2018.
- Özdemir S, Kılınç AÇ, Ögdem Z & Er E 2013. Eğitim fakültesi öğrencilerinin fakülte yaşamının niteliğine ilişkin memnuniyet düzeylerinin çeşitli değişkenler açısından incelenmesi [Examination of the satisfaction levels of education faculty students on the quality of faculty life according to different variables]. *Yükseköğretim ve Bilim Dergisi* [Journal of Higher Education and Science], 3(3):228–235. <https://doi.org/10.5961/jhes.2013.081>
- Oztürk N 2005. İktisadi kalkınmada eğitimin rolü [The role of education in economic development]. *Sosyo Ekonomi*, 1:27–44. Available at <http://dergipark.gov.tr/download/article-file/197573>. Accessed 31 December 2018.
- Pietarinen J, Soini T & Pyhäntö K 2014. Students' emotional and cognitive engagement as the determinants of well-being and achievement in school. *International Journal of Educational Research*, 67:40–51. <https://doi.org/10.1016/j.ijer.2014.05.001>
- Pintrich PR & Schrauben B 1992. Students' motivational beliefs and their cognitive engagement in classroom academic tasks. In DH Schunk & JL Meece (eds). *Student perceptions in the classroom*. New York, NY: Routledge.
- Poindexter MC 2006. Are colleges listening to students? *Connection*, 20(4):19–20. Available at <https://files.eric.ed.gov/fulltext/EJ792634.pdf>. Accessed 6 November 2018.
- Roberts LW & Clifton RA 1992. Measuring the affective quality of life of university students: The validation of an instrument. *Social Indicator Research*, 27(2):113–137. <https://doi.org/10.1007/BF00300557>
- Sari M, Ötünç E & Erceylan H 2007. Liselerde okul yaşam kalitesi: Adana ili örneği. [Quality of life in high schools: The case of Adana province]. *Kuram ve Uygulamada Eğitim Yönetimi* [Educational Administration: Theory and Practice], 50:297–320. Available at <https://www.pegem.net/dosyalar/dokuman/3803-20110604111123-5-sari.pdf>. Accessed 15 September 2018.

- Schlechty PC 2002. *Working on the work: An action plan for teachers, principals, and superintendents*. San Francisco, CA: Jossey-Bass.
- Schmidt LJ 1992. Relationship between pupil control ideology and the quality of school life. *Journal of Invitational Theory and Practice*, 1(2):103–110.
- Sherry A & Henson RK 2005. Conducting and interpreting canonical correlation analysis in personality research: A user-friendly primer. *Journal of Personality Assessment*, 84(1):37–48. https://doi.org/10.1207/s15327752jpa8401_09
- Skinner EA & Belmont MJ 1993. Motivation in the classroom: Reciprocal effects of teacher behavior and student engagement across the school year. *Journal of Educational Psychology*, 85(4):571–581.
- Stevens JP 2012. *Applied multivariate statistics for the social sciences*. Abingdon, England: Routledge.
- Tabachnick BG & Fidell LS 2007. *Using multivariate statistics* (5th ed). Boston, MA: Allyn & Bacon/Pearson.
- Tangen R 2009. Conceptualising quality of school life from pupils' perspectives: A four-dimensional model. *International Journal of Inclusive Education*, 13(8):829–844. <https://doi.org/10.1080/13603110802155649>
- Taylor SJ & Bogdan R 1990. Quality of life and the individual's perspective. In RL Schalock (ed). *Quality of life: Perspective and issues*. Washington, DC: American Association on Mental Retardation. Available at <https://files.eric.ed.gov/fulltext/ED323698.pdf>. Accessed 28 October 2018.
- Thien LM & Razak NA 2013. Academic coping, friendship quality, and student engagement associated with student quality of school life: A partial least square analysis. *Social Indicators Research*, 112(3):679–708. <https://doi.org/10.1007/s11205-012-0077-x>
- Van Maele D & Van Houtte M 2011. The quality of school life: Teacher-student trust relationships and the organizational school context. *Social Indicators Research*, 100(1):85–100. <https://doi.org/10.1007/s11205-010-9605-8>
- Wang MT, Eccles J, Willet J & Peck S 2011. *School engagement a multi-dimensional developmental concept in context*.
- Williams T & Roey S 1996. Consistencies in the quality of school life. In M Binkley, K Rust & T Williams (eds). *Reading literacy in an international perspective*. Washington, DC: U.S. Department of Education. Available at <https://nces.ed.gov/pubs97/97875.pdf#page=197>. Accessed 11 May 2017.
- Wong E, Cronin L, Griffith L, Irvine EJ & Guyatt GH 2001. Problems of HRQL assessment: How much is too much? *Journal of Clinical Epidemiology*, 54(11):1081–1085. [https://doi.org/10.1016/S0895-4356\(01\)00393-6](https://doi.org/10.1016/S0895-4356(01)00393-6)
- Yılmaz K 2005. İlköğretim okulu öğrencilerinin okul yaşamının niteliğine ilişkin görüşleri [The thoughts of the study in primary schools about the quality of school life]. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi*, 17:1–9.
- Yılmaz K 2007. İlköğretim okulu 6., 7. ve 8. sınıf öğrencilerinin okul yaşamının niteliğine ilişkin görüşleri [The opinions of the 6th, 7th and 8th grade primary school students concerning quality of school life]. *Kastamonu Eğitim Dergisi*, 15(2):485–490.
- Yılmaz K & Çokluk-Bökeoğlu Ö 2006. Fakülte yaşamının niteliği ölçüğü geçerlik ve güvenilirlik çalışması [Validity and reliability study of the quality of faculty life scale]. *Türk Eğitim Bilimleri Dergisi*, 4(2):201–210. Available at http://toad.edam.com.tr/sites/default/files/pdf/fakult_e-yasaminin-niteliği-ölcegi-toad_0.pdf. Accessed 6 November 2018.
- Yoon J & Järvinen T 2016. Are model PISA pupils happy at school? Quality of school life of adolescents in Finland and Korea. *Comparative Education*, 52(4):427–448. <https://doi.org/10.1080/03050068.2016.1220128>