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Development of A Learning Responsibility Scale

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Abstract – The purpose of this research is to develop a scale that will enable to determine the conditions of fulfillment of students' behaviors within the scope of learning responsibility which can be directly related to each course and learning area in school learning. Participants of the study are 520 university students studying at undergraduate level in different faculties. Scale development process was developed in nine stages in the direction of literature review, subject field experts and linguists, and finalized after pilot implementation, to the research population. The analysis of the research data was carried out by means of descriptive factor analysis. As the result of the data analysis process, a structure with explanatory power of about 54% of the total variance was obtained which explains the behaviors related to learning responsibility with four factors and 28 items ($\chi 2$: 6856,93, df: 351; $p < .000$). The reliability analysis shows that, the scale has a very high level ($\alpha = .927$) of reliability. The scale developed is assessed as a validated and reliable tool that can be used to determine students' fulfillment of in-school and out-of-school behaviors within the scope of their learning responsibility.

Key words: Learning responsibility, learning responsibility behaviors, in-school learning responsibility behaviors, out-of-school learning responsibility behaviors.

Introduction

The quality of learning that students experience through lessons and extracurricular activities at schools, where they spend a considerable amount of their time, has always been a popular research topic in educational sciences. Although a noticeable proportion of human behaviors derive from learning acquired through informal processes, behaviors acquired in school environment through regulated and structured processes are also vital for many reasons (Erişti, 2010).

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The main reasons of this situation that the quality of learning is not only important for student competences, but it also provides data for different dimensions such as quality of school and educational activities, quality of teachers, family expectations, program development activities, and effective and efficient use of investment, employment, finance, materials and human resources.

The literature on school learning addresses the variables affecting the quality of students' in school learning under different categories. According to one of these explanation, the factors that affect learning are discussed under two basic headings: student-related factors and environmental factors (Diamond, Randolph, & Spillane, 2004; Erişti, 2011a; Gaurdino & Fullerton, 2010). Student-related, or individual factors, refer to variables such as students' physiological, psychological, kinetic and emotional developmental state; personality traits; readiness to learn; self-perception; interest; self-confidence (Erişti, 2011b); motivation; concentration; self-efficacy; learning characteristics, and learning styles and strategies (Schmit, Miodrag, & Francesco, 2008). On the other hand, environmental factors affecting learning are variables such as physical and psychological arrangements related to the school and the classroom environment, teacher competences, the quality of teaching, and the methods, techniques, tactics, strategies, teaching materials employed in the teaching process (Schafer and Sweeney, 2012). For this reason, the results obtained about the quality of learners must be explain by addressing individual and environmental variables together (Hanushek, Kain, & Rivkin, 2002; Rivkin, Hanushek, & Kain, 2005; Wößmann, 2003).

When compared to the past it is also worth noting that there has been significantly more research on student-related and individual factors affecting learning in recent years. One can assume that the current popular interest in the relationship between learning and environmental variables could be related to the way learning concept is defined. As a matter of fact, it would not be illogical to assume that human beings' tendency to explain learning by environmental variables – which probably started as a necessity in early times when there was not enough scientific data about many areas such as the cognitive, emotional, physiological, psychological, biochemical and brain functioning of people – continues to exist to a certain extent today. A view of learning with a strong focus on environmental variables is clearly based on the belief that the results on the quality of learning can best be explained by the concept of teaching and the quality of teaching, as in the case of behavioral theory in education. The common definition

of teaching as an activity that guides or maintains learning is nothing more than a confirmation of this criticism.

It is vital that research on the quality of learning (Brooks & Brooks, 1999) focuses on the process-related actions of learners, who are the active subjects of the learning process and who are expected to construct knowledge and build their own meanings (Clarke, 1998). In a situation where learners are not active participants (Erişti, 1998) or where they do not show the behaviors required by learning responsibility (Snyder, Bolin, & Zumwalt, 1992), it would be hard to discuss knowledge construction (Wilson, 1996) or the presence of quality learning (Hmelo-Silver & Barrows, 2008). What is more, in a situation where a learner neither takes responsibility for his or her own learning nor shows an active participation and learning effort in the learning process (McCabe & Trevino, 2002), environmental arrangements could just become trivial.

The persistent emphasis on contemporary learning theories about the need to address the teaching and learning process with a student-centered view is in parallel with the explanations above. There is a linear relationship between the fact that learning occurs through learners' active involvement and effort to learn and the extent to which they demonstrate the behaviors related to learning responsibility, which can be described as the source of these actions. The relevant literature suggests that students who are determined, highly motivated and achievement-oriented make more efforts about in-school and out-of-school behaviors related to their learning responsibilities (Borman & Overman, 2004; Catterall, 1998; Finn & Rock, 1997; Lee & Loeb, 1996).

Glasser (2005) suggest that learners' actions regarding their learning responsibilities are not a choice but a necessity According to this view, students should not be considered free about the behavior they will demonstrate in the classroom. The limits of behaviors are determined by the teacher's expectations about the course (Champagne et al., 2001). Students are expected to act accordingly. Lickona (1991) emphasizes that responsibility is not merely a means to success, but a necessity with moral aspects. In this respect, exhibiting behaviors required by responsibility implies that the learner is at the same time careful and respectful to himself or herself and to others (Ellenburg, 2001; Ruyter, 2002). Cook-Sather, (2010) describes the teaching-learning process is a sharing of responsibility. Success of this process is only possible by the parties involved in the teaching process and the student as the learner fulfilling their duties and responsibilities (Hung, Chou, Chen, & Own, 2010). Moreover, the collaborative approach (Shavelson & Huang, 2003) of the school for informing learners about their

responsibilities and teaching them about these responsibilities (Lodge, 2007) is a key responsibility (Boud, 1988; Lee & Smith 2001; Shavelson, 2007). Considering the fact that learning is a learner-centered process, effective teaching behaviors naturally include encouraging students to take their own learning responsibilities (Diamond et al., 2004), motivation and providing guidance (Fisher & Frey, 2008; Shavelson, 2007).

Responsibility is when a person determines his or her attitudes and behaviors in a particular context and accepts the consequences. Learning responsibility is when the learner makes the necessary decisions to obtain quality learning outcomes, manages his or her own learning process, monitors and evaluates learning outcomes and takes the necessary measures (Hill, 2002; Roper, 2007). It is defined as identifying learning objectives (Savin-Baden & Major 2004), being ready (Sierra, 2009) and willing (Clayton, 2003) to learn (McCombs, 2001), taking active role in individual and collaborative activities in classroom (Felder & Brent, 2009), concentrating on learning (McCombs, 1992), selecting and managing learning resources, having positive attitudes of school and learning (McCombs, 2001), eliminating learning errors and accepting one's own learning outcomes (Sing, Granville & Dika, 2002), self-control (Zimmerman & Kitsantas, 2005), focusing on doing the best, showing good examples, taking the tasks seriously (Warren, 1996), fulfilling the tasks elaborately (Discenza, Howard, & Schenk, 2002) and timely (Kitsantas & Zimmerman, 2009).

Research Objectives

This study aims to develop a valid and reliable scale that will measure the extent to which learners perform behaviors within their learning responsibilities. Developing an up-to-date scale of learning responsibility with proven validity and reliability based on the literature findings could help eliminate a significant gap in the subject area. In addition, this scale development study could be considered significant since research on the contemporary learning theories suggests that learners have the primary responsibility for the learning process, knowledge is constructed through learners' active involvement and effort, and learners' efforts are the key determinants in achieving quality learning outcomes (Davis & Sumara, 2002). Determining learners' behaviors within their learning responsibilities that can be directly related to each course and content area by using a scale with a proven validity and reliability could analyze the existing situation and, more importantly, help identify the possible problems and their causes. In the light of the main objective stated, our research questions are as follows:

Method

In relation to the issue of scale development, there are different explanations about the stages in which such a process should be carried out. In this study, the scale development process was carried out in a nine-stage process that is widely accepted in the relevant literature (DeVellis, 2011; Haladyna & Rodriguez, 2013). These steps are as follows: Firstly, a thorough literature review is conducted in order to determine the learning responsibility that is intended to be measured and the behaviors that might be related to this feature. In the following stage, a comprehensive item pool is established based on the data obtained in the literature review. Next, the scale format that can be used when measuring this property is decided. The following steps include development of a rough draft of the scale, evaluation of the items by field experts, a pilot implementation, necessary revisions based on the pilot implementation results, and administration of the rough draft of the scale to the selected research sample. Validity and reliability tests are conducted after the implementation and the final draft of the scale is obtained. In this study, the work carried out in relation to each stage is explained in order and in detail in the scale development process.

Scale development process

An item list consisting of 56 statements was established based on the review of the literature on learning responsibility and the behaviors that are expected to be fulfilled by individuals who have this sense of responsibility. In the item construction process, the identification of behaviors related to learning responsibility was not only limited to the learners' in-school or in-classroom behaviors, but learners' preparation, effort and previous learning as well as their fulfillment of duties and responsibilities outside the school were also considered as key determinants of in-classroom performance and achievement. In this respect, in-school and out-of-school behaviors that were considered to be related to learning responsibility were included as items in the scale construction process.

Following the formation and listing of the statements for the learning responsibility behaviors that could be included in the scale, these statements in the list were written as items. The number of items was finally reduced to 39 items since 17 items overlapping each other in terms of their scopes and the quality they described. The next step after completing the item selection process was choosing a measurement format. The rating method chosen to measure the quality in question in our study was a Likert-type scale. It was chosen for this study because it can collect instant data about a research topic from a large number of participants, it is convenient for rating, it offers a high level of reliability and validity and it can efficiently be

used to measure various emotional traits (Nemoto & Beglar, 2014). The scale draft was structured as a five-point Likert type scale. Accordingly, it was anticipated that the participants would indicate the likelihood of the behavior expressed in each scale item for themselves by choosing one of these responses: "Not at all like me, Not much like me, Unsure, Very much like me, and Exactly like me".

In order to ensure its content and appearance validity, the draft scale form was reviewed by four field experts who had research experience in program development, especially in learning and teaching. In line with the feedback from the experts, seven items were removed from the draft scale. This version of the scale, which consisted of 32 items, was reviewed by two Turkish language experts to be evaluated in terms of language, intelligibility and grammar. After the proposed revisions, for appearance validity and usability, preliminary implementation of the draft scale was carried out with a group of 14 students who were doing their graduate or postgraduate degrees in education and teaching. The final draft of the five-point likert scale was obtained before the primary implementation and after the instructions were written and page design, numbering and other layout arrangements were completed for the 32-item version of the scale. The research data were obtained by administering the final draft of the scale to the participants during the autumn semester of 2016-2017 academic year.

Participants

The participants were undergraduate students of different departments and faculties (education and science faculties) at a state university in Turkey. The participants were selected through a simple random sampling method. The sample size was determined based on two criteria. According to the first criterion, it was necessary to reach a sample of at least five times the number of items in the scale (Tavşancıl, 2006). According to the second criterion, a sample size of 300 or more people would yield good statistical results for factor analysis (100 weak, 200 acceptable, 300 good, 500 very good and 1.000 excellent) (MacCallum, Widaman, Preacher & Hong, 2001). Therefore, the adequate number of participants for our research was determined as 580 based on these two basic criteria.

A total of 42 participants who could not be reached because they were not at school on the planned application date and time and another 18 people who did not respond to the scale items in accordance with the instructions were excluded from the sample. As a result, the data for our study were obtained from a total of 520 participants who responded to the data collection tool in accordance with the instructions. Table 1 shows the demographic characteristics of the participants.

Table 1. Demographic Characteristics of the Participants

		Gender					
		Male		Female		Total	
		n	%	n	%	n	%
Major of Study	Mathematic	24	4.6	15	2.9	39	7.5
	Physics	17	3.3	11	2.1	28	5.4
	Biology	21	4.0	14	2.7	35	6.7
	Chemistry	13	2.5	12	2.4	25	4.8
	Mathematic Education	42	8.1	23	4.4	65	12.5
	Social Sciences Education	25	4.8	16	3.1	61	11.7
	Primary School Education	26	5.0	19	3.7	45	8.6
	English Language Education	35	6.7	34	6.5	69	13.3
	German Language Education	28	5.4	11	2.1	39	7.5
	French Language Education	21	4.0	13	2.5	34	6.5
	Education of the Hearing Impaired	34	6.5	19	3.6	53	10.2
	Education of the Mentally Disabled	33	6.4	14	2.7	47	9.0
Total		319	61.3	201	38.7	520	100.0

As can be seen in Table 1, there were more male students (61.3%) than female students (38.7%) in the sample. While 36.9% of the participants were doing degrees related to science and mathematics (i.e. Mathematics, Physics, Biology, Chemistry and Mathematics Education), the rest of them (63.1%) were doing degrees related to social sciences or language education (i.e. Social Sciences Education, Primary School Education, Education of the Hearing Impaired, Education of the Mentally Disabled, English Language Education, German Language Education and French Language Education).

Results and Interpretation

The appropriateness of the data obtained by administering the scale to the sample for the factor analysis was tested with several criteria. According to the literature on scale development, a sample of 520 participants was considered to be a sufficient number for the factor analysis (Field, 2009). Secondly, the sampling adequacy of the selected sample was checked by a Kaiser-Meyer-Olkin (KMO) test. The values that this measurement result can take range from 0 to 1. Those values closer to 1 indicates that the correlation structure among the scale items is compact and that the factor analysis can yield reliable results. In scale development studies, KMO values of .60 and above are considered to be acceptable values (Pallant, 2001). The KMO value obtained in our analysis was .930, which indicates a result that is almost ideal (Hutcheson & Sofroniou, 1999). Considering the correlation among the scale items, the value obtained for their additivity under certain factors is also very high (χ^2: 6856.93; df: 351; p <.000).

Because there might be a relationship among the items, the factor analysis was run through the principle component analysis and using the direct oblimin rotation technique. The

principal component analysis identified four major factors that accounted for about 54 percent of the total variance (53.992) and the core values of which exceeded 1. For analyzes in social sciences, a variance rate of 40% or more is considered to be adequate or acceptable (Scherer, Wiebe, Luther & Adams, 1988). In this study, the total variance explained by the four factors, 53.992, shows a good variance ratio. In addition, the diagram analysis of the scree test (Field, 2009), which is run to determine the number of significant factors and the magnitude of the resulting eigenvalue to represent the number of factors, suggests four rapid declines.

According to the values obtained in the factor analysis process, four items ("I try to determine the dimensions and components of the course", "I identify strong and up-to-date aspects of the course", "I get information about the ways and methods of my successful friends" and "I review my friends homework, project and research reports") that had factor loads lower than .40, a value between the factor loads obtained in different factors lower than .10, values of kurtosis and skewness outside the acceptable limits, and that formed an item alone while appearing as an independent factor were excluded from the scale. As a result, we obtained a scale that consists of four factors and 28 items belonging to these factors. According to this structure, based on the responses to all the positively loaded 28 items, the minimum possible score on the scale is 28 (28x1) and the maximum possible score is 140 (28x5). Higher scores on the scale indicate presence of behaviors required in terms of learning responsibility whereas lower scores indicate a lack of these behaviors.

In terms of factor-item structure of the scale, the first item consists of seven items, the second factor consists of nine items, the third factor consists of eight items and the fourth factor consists of four items. Secondly, based on the analysis of the scale items in terms of the factors which they are clustered under and their properties, the first factor is called "preparation for learning", the second factor is called "active engagement in learning", the third factor is called "monitoring learning outcomes" and the fourth factor is called "enriching learning". The item loads of the scale items range from .770 (max) to .480 (min). According to the literature on scale development, those items with values equal to or lower than 0.32 are weak, those with values of $0.45<p<0.54$ are acceptable, those with values of $0.55<p<0.62$ are good, those with values of $0.63<p<0.70$ are very good and those items with values equal to or higher than 0.71 are excellent (Comrey & Lee, 1992; Tabachnick & Fidell, 1996). In the light of this, our four-scale and 28-item scale has 3 acceptable items, 9 good items, 13 very good items and three excellent items.

An internal consistency test was run to analyze the reliability of the scale. The overall reliability coefficient value for the scale is α=.927. According to the factor-based analyzes, the reliability level is .864 for the first factor, .860 for the second factor; .816 for third factor, and .757 for the fourth factor. According to the literature on evaluating the alpha coefficient, values of $0.60<\alpha<0.69$ indicate a sufficient reliability level, values of $0.70<\alpha<0.89$ indicate a high reliability level and values higher than 0.90 indicate a very high reliability level (Field, 2009, Özdamar, 2011). In the light of this, the overall value of α=.927 for our scale has a very high level of reliability. Table 2 shows the distribution of the scale items according to the factors, score means, standard deviation values, item total correlations and item loads.

Table 2. Factor and Item Statistics

Factor 1: Preparation for learning	Mean	Standard Deviation	Item total correlation	Item load
7. Before the beginning time of classes, I definitely take my place in the classroom and wait for the lesson preparedly.	4.27	0.90	0.440	0.709
14. I certainly fulfill my duties and responsibilities about the courses in advance of classes.	4.14	0.92	0.506	0.683
23. I have the tools, materials and learning resources that I may need during the course at the ready.	4.44	0.77	0.462	0.683
8. I set personal achievement goals for the courses I take.	4.03	0.72	0.612	0.648
16. I inquire about the knowledge skills and other competences related to my courses.	4.10	0.88	0.574	0.581
19. I attend all classes except for in certain extreme situations.	3.92	1.06	0.545	0.553
2. I go to classes by pre-reading and preparing for the topics to be discussed.	3.23	1.06	0.511	0.480

Factor 2: Active engagement in learning	Mean	Standard Deviation	Item total correlation	Item load
1. I make every effort to participate actively in class activities and discussions.	3.86	0.93	0.581	0.684
13. I share my personal opinions about the topics covered in classes in the classroom environment.	3.58	1.09	0.583	0.646
17. For points that I have difficulty in understanding, I ask the course instructor to provide examples and additional information.	3.96	0.92	0.565	0.639
25. For points that I have difficulty in understanding, I ask the course instructor questions and strive to learn the subject thoroughly.	3.87	0.97	0.664	0.610
6. During classes, I try to find answers in my mind to the questions asked by the course instructor or my friends about the subject.	4.05	0.84	0.624	0.571
3. During classes, I create personal questions about the topic being studied and try to find an answer.	3.87	0.88	0.632	0.556
5. I focus all my attention on in-class activities during classes and strive to learn.	4.32	0.63	0.632	0.553
4. I strive to recognize important information about the topics covered in classes.	4.13	0.76	0.630	0.538
15. I take notes to remember important information about lesson topics and to review them when necessary.	4.00	0.93	0.627	0.498

Factor 3: Monitoring learning outcomes	Mean	Standard Deviation	Item total correlation	Item load
9. I make every effort to get detailed feedback from the course instructor about the quality of products such as homework, project and research report.	3.12	1.23	0.485	0.770
20. During non-school times, I go through my class notes/course materials to review what I have learnt in lessons.	3.83	0.93	0.620	0.748
12. I immediately try to catch up with what I miss in classes that I cannot attend.	3.88	0.96	0.712	0.717
28. I try to identify my learning strengths and weaknesses about my courses.	3.69	0.87	0.679	0.681
24. I certainly obtain information about the topics covered and tasks and assignments given in classes that I cannot attend.	3.95	0.92	0.682	0.677
10. If there are topics that I cannot comprehend during classes, I do supplementary work to eliminate my learning weaknesses.	3.85	0.93	0.674	0.584
27. I make every effort to get detailed feedback from the course instructor about my exam results and learning weaknesses.	3.57	1.03	0.650	0.583
11. When I underachieve in my courses, I question the reasons for that.	3.92	0.90	0.583	0.554

Factor 4: Enriching learning	Mean	Standard Deviation	Item total correlation	Item load
21. I follow and read the contents of information sources such as printed or electronic journals, newspapers, books and websites that contain information about course subjects.	3.72	0.96	0.614	0.692
18. I make use of online information resources such as open source courses and educational portals to improve my academic knowledge related to courses.	3.73	1.01	0.554	0.688
26. In order to increase my knowledge, I conduct further research on the topics discussed in classes.	3.56	0.99	0.631	0.668
22. I explore different opportunities to apply the knowledge and skills I have learned in lessons.	3.69	1.02	0.611	0.623

Discussion

This research aims to develop a valid and reliable scale that will measure the extent to which learners perform behaviors within their learning responsibilities related to their learning experiences at school. In this study, the scale development process was carried out in a nine-stage process. The data were obtained from 520 undergraduate students of different departments and faculties at a state university.

The exploratory factor analysis yielded a scale structure that consists of four factors and 28 factors dependent on these factors, has a high level of validity and reliability, and accounts for about 54% of the total variance. In this structure, the first factor consists of seven items, the second factor consists of nine items, the third factor consists of eight items and the fourth factor consists of four items.

Based on the analysis of the scale items in terms of the factors which they are clustered under and their properties, the first factor is called “preparation for learning”, the second factor

is called "active engagement in learning", the third factor is called "monitoring learning outcomes" and the fourth factor is called "enriching learning". Consisting of seven items, the first factor, preparation for learning, includes students' behaviors in relation to out-of-school or pre-course learning responsibilities such as fulfilling the tasks and assignments given before classes, pre-class reading and research to maximize learning during classes, having learning tools and resources at the ready, behaving in accordance with class hours and duration and attendance policy. Consisting of nine items, the second factor, active engagement in learning, deals with students' actions, efforts and behaviors in relation to their responsibilities during classes. Consisting of eight items, the third factor, monitoring learning outcomes, deals with students' actions and behaviors in relation to their responsibilities after classes during non-school times such as supplementing learning, making revisions and eliminating learning weaknesses. Consisting of four items, the fourth factor, enriching learning, deals with students' behaviors that they are expected to exhibit in order to supplement and enrich their in-school and in-class learning and to expand their knowledge and skills.

The relevant literature suggests that the learning responsibilities of students cannot be explained solely by in-school responsibility behaviors (Borman & Overman, 2004; Catterall, 1998; Finn & Rock, 1997). The behaviors to be addressed in the context of learning responsibilities are not limited to the efforts and behaviors within the classroom (Brooks and Brooks, 2006). The main determinants of the quality of in-classroom efforts or, in other words, behaviors such as preparing for and monitoring learning process, and supplementing and enriching learning are behaviors related to learning responsibility that must be fulfilled outside the school.

Research suggests that students' awareness of their learning responsibilities is not limited only to in-school learning, but it is also a key determinant of lifelong learning (Devlin, 2002; Hughes, 2001; Stockdale & Brockett, 2010). In addition, the bewildering variety of information and communication technologies and the use of internet-based learning resources (Lin and Hsieh, 2001; Hung et al., 2010) have made the maximal demonstration of learning responsibility behaviors essential (Garrison, Cleveland-Innes, & Fung, 2004; Hartley & Bendixen, 2001; Hsu & Shiue, 2005). In the light of this, it is of great importance to determine the responsibilities of learners, who are the active subjects of learning process, about their own responsibilities and the extent to which they can fulfill these responsibilities. On the other hand, it is also critical to develop a scientific scale on learning responsibility so that further research can explore the variables that affect the fulfillment of learning responsibility behaviors. In this

sense, the scale developed in this study has factors and items that are compatible with the relevant research findings in terms of content.

While the importance of learning responsibility is emphasized extensively in the literature, but the number of scales developed for learning responsibility is rather limited. Yeşil (2013) conducted a learning responsibility scale development study and tested the validity and reliability of the scale with primary school students. In that study, he obtained a five-point Likert-type scale with two factors and 22 items that accounted for 41% of the total variance. Yeşil's study aims to determine the responsibility of learning in terms of the source of responsibility. In the scale, the first factor consisting of 16 items deals with externally directed learning responsibility, and the second factor consisting of 6 items deals with self-regulated learning responsibility. In our study, the item loads of the scale items range from .770 (max.) to .480 (min). In line with the relevant literature (Comrey & Lee, 1992; Tabachnick & Fidell, 1996), our four-scale and 28-item scale has 3 acceptable items, 9 good items, 13 very good items and 3 excellent items. Finally, according to the literature on evaluating the alpha coefficient, values higher than 0.90 indicate a very high reliability level (Field, 2009). In the light of this, the overall value of α=.927 for our scale on the internal consistency test has a very high level of reliability.

Recommendations

Future research can investigate the validity and reliability of our scale for use at different school stages. Also, this scale can be used to investigate students' fulfillment of behaviors related to their learning responsibilities with respect to different variables such as personal and demographic characteristics and the quality of learning and teaching environments. Finally, future research can employ this scale to determine students' fulfillment of behaviors related to learning responsibility in terms of courses belonging to different content areas and to identify the potential problems and causes of these problems.

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Öğrenme Sorumluluğu Ölçeğinin Geliştirilmesi

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Özet – Bu araştırma ile öğrencilerin, okul öğrenmeleriyle ilgili, her bir ders ve öğrenme alanı ile doğrudan ilişkilendirilebilecek, öğrenme sorumluluğu kapsamındaki davranışları yerine getirme durumlarının belirlenebilmesini olanaklı kılacak bir ölçek geliştirilmesi amaçlanmıştır. Araştırmanın katılımcıları, farklı alanlarda, lisans düzeyinde öğrenim gören 520 üniversite öğrencisidir. Araştırma verileri, açımlayıcı faktör analizi yoluyla analiz edilmiş ve çözümlenmiştir. Veri çözümleme süreci sonucunda, öğrenme sorumluluğu ile ilgili davranışları, dört faktör ve 28 madde ile açıklayan (χ^2: 6856,93; df: 351; p<.000), toplam varyansın yaklaşık % 54'ünü açıklama gücüne sahip bir yapı elde edilmiştir. Güvenirlik konusunda yapılan analizler, geliştirilen ölçeğin, oldukça yüksek bir güvenirlik düzeyine (α=.927) sahip olduğunu ortaya koymaktadır. Elde edilen sonuçlar, bu ölçeğin, öğrencilerin, öğrenme sorumluluğu kapsamındaki okul içi ve okul dışı davranışları hangi ölçüde yerine getirdiklerini belirlemek amacıyla kullanılabilecek, yüksek düzeyde geçerlik ve güvenirliğe sahip bir araç olduğunu göstermektedir.

Anahtar kelimeler: Öğrenme sorumluluğu, öğrenme sorumluluğu davranışları, okul içi öğrenme sorumluluğu davranışları, okul dışı öğrenme sorumluluğu davranışları.

ÖZET

Giriş

Öğrenmenin niteliği ile öğrenme sürecinin öznesi olan, bilgiyi yapılandırmaları ve kendi anlamlarını oluşturmaları beklenilen öğrencilerin (Clarke, 1998) süreç içerisindeki davranışları arasında, oldukça yüksek düzeyde bir ilişki söz konusudur (Brooks, ve Brooks, 1999). Öğrencinin etkin katılımcı olmadığı (Erişti, 1998), öğrenme sorumluluğunun gerektirdiği davranışları göstermediği (Snyder, Bolin, ve Zumwalt, 1992), çaba harcamadığı bir durumda bilginin yapılandırılmasından (Wilson, 1996), ve nitelikli öğrenmenin varlığından söz etmek oldukça güçtür (Hmelo-Silver ve Barrows, 2008).

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Öğrencinin, kendi öğrenmeleri konusunda sorumluluk taşımadığı, öğrenme sürecine etkin, aktif katılım ve öğrenme çabası göstermediği (McCabe ve Trevino, 2002) bir durumda, çevresel düzenlemeler de önemini kaybedebilecektir. Çağdaş öğrenme kuramlarının, öğretme ve öğrenme sürecinin öğrenci merkezli bir bakış açısıyla ele alınması gerektiği konusundaki ısrarlı vurgulamaları, yukarıdaki açıklamalarla örtüşmektedir.

Glasser, (2005), öğrencilerin öğrenme sorumluluğu ile ilgili eylemlerinin bir tercih değil, bir zorunluluk olduğunu ifade etmektedir. Bu görüşe göre, öğrenciler sınıf içinde gösterecekleri davranışlar konusunda özgür olarak değerlendirilmemelidir. Davranışların limitlerini, öğretmenin ders ile ilgili beklentileri tayin eder (Champagne ve diğerleri, 2001). Öğrenciler, bu beklentiye uygun davranmak durumundadırlar. Cook-Sather (2010), öğretme-öğrenme sürecini bir sorumluluk paylaşımı olarak açıklamaktadır. Bu sürecin başarıya ulaşması, öğretim süreci ile ilgili tarafların ve öğrenen kişi olarak öğrencinin, görev ve sorumluluklarını yerine getirmeleriyle mümkündür (Hung, Chou, Chen, ve Own, 2010). Daha da ötesi, öğrenmenin oluşması ve sürdürülmesi için okulun öğrenciyi sorumluluklarından haberdar etmesi, ona sorumluluklarını öğretmesi (Lodge, 2007) konusundaki işbirlikçi yaklaşımın (Shavelson ve Huang. 2003), anahtar konumda bir sorumluluk olduğu ifade edilmektedir (Boud, 1988; Lee ve Smith 2001; Shavelson, 2007). Öğrenmenin, öğrenen merkezli bir süreç olduğu gerçeğinden hareketle, öğrencilerine kendi öğrenme sorumluluklarını almaları konusunda cesaret verme (Diamond ve diğerleri, 2004), güdüleme, yol gösterme (Fisher ve Frey, 2008; Shavelson, 2007) becerilerinin, etkili öğretmenlik davranışları arasında gösterilmesi, bu gerçekliğin doğal bir sonucudur.

Öğrenme sorumluluğu, öğrencinin nitelikli öğrenme sonuçları elde edebilmek için gerekli kararları alması, kendi öğrenme sürecini yönetmesi, öğrenme sonuçlarını izlemesi, değerlendirmesi ve gerekli önemleri alması olarak açıklanabilir (Hill, 2002; Roper, 2007). Öğrenme hedeflerini belirleme (Savin-Baden ve Major 2004), öğrenmeye hazır (Sierra, 2009) ve istekli olma (Clayton, 2003), sınıf içi bireysel ve işbirliğine dayalı etkinliklerde etkin görev alma (Felder ve Brent, 2009), dikkatini öğrenmeye odaklama (McCombs, 1992), öğrenme kaynaklarının seçimi ve yönetimi, okula ve öğrenmeye ilişkin olumlu tutumlara sahip olma (McCombs, 2001), öğrenme eksiklerini giderme, kendi öğrenme sonuçlarını sahiplenme (Sing, Granville ve Dika, 2002), öz kontrol (Zimmerman ve Kitsantas, 2005), elinden gelenin en iyisini yapmaya odaklanma, iyi örnekler ortaya koyma, işini önemseme (Warren, 1996), görev ve sorumlulukları nitelikli bir biçimde (Discenza, Howard, ve Schenk, 2002) ve zamanında yerine getirme (Kitsantas ve Zimmerman, 2009) gibi başlıklarla açıklanmaktadır.

Öğrenme sorumluluğu ile ilgili davranışlar, yalnızca okul ya da sınıf içindeki çaba ve eylemlerle sınırlı değildir (Brooks ve Brooks, 2006). Okula, derse ve öğrenmeye hazırlık, okulda öğrenilenleri pekiştirme, zenginleştirme, ders dışı görev ve sorumlulukları yerine getirme gibi davranışların önemli bir bölümü, okul dışında yerine getirilmesi gereken öğrenme sorumluluğuyla ilgili davranışlardır.

Öğrenme sürecinin öznesi konumundaki öğrencilerin, kendi öğrenmeleri konusundaki sorumluluklarını ve söz konusu sorumlulukları içeren davranışları hangi ölçüde yerine getirdiklerinin belirlenmesi büyük önem taşıyan bir konudur. Öte yandan; öğrenme sorumluluğu davranışlarının yerine getirilmesine etki eden değişkenlerin belirlenebileceği ileri araştırmaların yapılabilmesi için de, öğrenme sorumluluğu konusunda bilimsel dayanaklı bir ölçek geliştirilmesi oldukça önemlidir.

Bu araştırma, öğrencilerin, öğrenme sorumluluğu kapsamındaki davranışları hangi ölçüde yerine getirdiklerini belirlenebilmesini olanaklı kılacak, geçerli ve güvenilir bir ölçek geliştirilmesini amaçlamaktadır. Güncel, geçerlik ve güvenilirliği saptanmış bir öğrenme sorumluluğu ölçeğinin geliştirilmesinin, konu alanında önemli bir boşluğu ortadan kaldıracağı düşünülmektedir. Öğrencilerin, her bir ders ve içerik alanı ile doğrudan ilişkilendirilebilecek öğrenme sorumluluğu kapsamındaki davranışlarının, geçerlik ve güvenirliği test edilmiş bir ölçek yoluyla ortaya konulması, var olan durumun betimlenmesi ve bu konuda yaşanan olası sorunların ve nedenlerinin belirlenmesi konularında da yol gösterici olabilecektir.

Yöntem

Bu araştırmada, ölçek geliştirme süreci, alan yazında yaygın kabul gören (DeVellis, 2011; Haladyna ve Rodriguez, 2013) dokuz aşamalı bir süreçle gerçekleştirilmiştir. Söz konusu aşamalar, sırasıyla şöyledir: İlk olarak; ölçülmesi amaçlanan öğrenme sorumluluğu konusu ve bu özellikle ilgili olabilecek davranışların belirlenebilmesi amacıyla, ayrıntılı bir alan yazın taraması gerçekleştirilmiştir. İzleyen aşamada, alanyazından elde edilen verilere dayalı olarak kapsamlı bir madde havuzu oluşturulmuştur. Sonrasında, bu özelliğin ölçülmesinde kullanılabilecek ölçek formatına karar verilmiştir. Ölçeğin taslak yapısının geliştirilmesi, maddelerin alan uzmanlarının değerlendirilmesine sunulması, pilot uygulama ve ardından, gerekli düzenlemelerin yapılarak, taslak ölçeğin, araştırma için seçilen gruba uygulanması, birbirini izleyen diğer aşamalardır. Uygulama sonrasında ise geçerlik ve güvenirlik çalışmaları yapılarak, ölçeğe son biçimi verilmiştir.

Araştırma verileri, taslak ölçek formunun katılımcılara, 2016-2017 öğretim yılı güz döneminde uygulanması ile elde edilmiştir. Araştırmanın katılımcılarını, Türkiye'de, bir devlet

üniversitesinin iki farklı fakültesinde (eğitim ve fen), farklı alanlarda, lisans düzeyinde öğrenim gören 520 üniversite öğrencisi oluşturmaktadır. Katılımcılar, basit seçkisiz örnekleme yöntemiyle belirlenmiştir. Örneklem büyüklüğünün belirlenmesinde, iki ölçüt göz önüne alınmıştır. Bunlardan ilki, ölçekteki madde sayısının en az beş katı bir kitleye ulaşılması (Tavşancıl, 2006) gerektiğidir. İkinci ölçüt ise faktör analizi için 300 kişi ve üzerinde bir örneklem büyüklüğünün iyi derecede istatistiksel sonuçlar vereceği (MacCallum, Widaman, Preacher ve Hong, 2001) bilgisidir.

Bulgular, Tartışma ve Öneriler

Ölçeğin, örneklem olarak belirlenen katılımcı gruba uygulanmasıyla elde edilen verilerin, faktör analizi için uygunluğu çeşitli ölçütlerle kontrol edilmiştir. Ölçek geliştirme alan yazınındaki kaynaklardan elde edilen bilgiler, 520 kişilik bir katılımcı grubunun faktör analizi için oldukça yeterli bir sayı olduğunu (Field, 2009) ortaya koymaktadır. İkinci olarak seçilen örneklemin, örnekleme yeterliliği Kaiser-Meyer-Olkin (KMO) testi ile kontrol edilmiştir. Yapılan analizde elde edilen KMO değeri ise .930'dur. Bu değer; mükemmele yakın bir sonucun varlığını işaret etmektedir (Hutcheson ve Sofroniou, 1999). Ölçek maddeleri arasındaki korelasyon ilişkisine dayalı olarak, belli faktörler altından toplanabilirlikleri konusunda elde edilen değer de oldukça yüksektir (χ^2: 6856,93; df: 351; p <.000).

Faktör analizi süreci, ana bileşen analizi yoluyla ve maddeler arasında ilişki olabileceği gerekçesinden hareketle, “direct oblimin” döndürme tekniği kullanılarak gerçekleştirilmiştir. Ana bileşen analizi, öz değerleri 1'i aşan ve toplam varyansın yaklaşık yüzde 54'ünü (53,992) açıklayan dört ana faktör ortaya koymuştur. Sosyal bilimler alanında yapılan analizlerde % 40 ve üzerindeki bir varyans oranı yeterli ya da kabul edilebilir (Scherer, Wiebe, Luther ve Adams, 1988) olarak yorumlanmaktadır. Bu araştırmada dört faktörün açıkladığı toplam varyans olan 53,992 değeri, oldukça iyi sayılabilecek bir varyans oranını göstermektedir. Ek olarak, önemli faktör sayısının belirlenmesinde ve ortaya çıkan öz değerin faktör sayısını temsil edecek büyüklükte olup olmadığını belirlemek amacıyla yapılan scree test diyagram analizi de (Field, 2009), 4 yüksek ivmeli bir düşüş olduğu göstermektedir. Faktör analizi sürecinde elde edilen değerlere göre; faktör yükü .40’tan düşük, farklı faktörlerde aldığı faktör yükleri arasındaki değer .10’dan düşük, basıklık ve çarpıklık değerleri kabul edilebilir sınırların dışında olan ve yanısıra, hiçbir faktöre dahil görünmeyip, tek başına faktör oluşturduğu belirlenen 4 madde, ölçek yapısından çıkarılmıştır. Sonuç olarak; 4 faktör ve bu faktörlere ait 28 maddeden oluşan bir ölçek bütünü ortaya çıkmıştır. Ölçek maddelerinin madde yükleri; .770 ile .480 arasında değişkenlik göstermektedir. Ölçek geliştirme alanyazında, madde yükleri; 0,32 ve daha düşük

olan maddeler kötü, 0,45<p<0,54 kabul edilebilir, 0,55<p<0,62 iyi, 0,63<p<0,70 çok iyi ve 0,71'i aşan yüklemelerin ise mükemmel olarak (Comrey ve Lee, 1992; Tabachnick ve Fidell, 1996) kabul edildiği bildirilmektedir. Bu bilgiden hareketle, 4 faktör ve 28 maddeden oluşan bu ölçek ile ilgili olarak elde edilen sonuçlar; kabul edilebilir düzeyde 3 madde, iyi düzeyde 9 madde, çok iyi düzeyde 13 madde ve mükemmel düzeyde de 3 madde olduğunu ortaya koymaktadır. Ölçek beşli likert türünde yapılandırılmıştır. Buna göre, katılımcıların, ölçekte yer alan her bir maddede ifade edilen davranışı, kendi davranışlarına uygunluğunu göz önüne alarak, "hiç uygun değil, pek uygun değil, kararsızım, oldukça uygun ve çok uygun" seçeneklerinden birini seçerek belirtmeleri ön görülmüştür.

Ölçeğin güvenirlik analizi için iç tutarlılık testi yapılmıştır. Ölçek bütünü için elde edilen güvenirlik katsayısı, α=.927'dir. Faktör bazında yapılan analizler ise, birinci faktörün .864; ikinci faktörün .860; üçüncü faktörün .816 ve dördüncü faktörün de .757 güvenirlik düzeyine sahip olduğunu göstermektedir. Alanyazında, cronbach alpha katsayısının değerlendirilmesi konusunda yapılan, 0.90'dan yüksek değerlerin çok yüksek güvenirlik düzeyine işaret ettiği (Field, 2009; Özdamar, 2011) açıklamasından hareketle, ölçek bütünü için elde edilen α=.927 değerinin, geliştirilen ölçeğin oldukça yüksek düzeyde bir güvenirliğine sahip olduğunu ortaya koyduğu söylenebilir.

Ölçekte yer alan maddeler, toplandıkları faktörler ve özellikleri yönüyle incelendikten sonra, birinci faktör "öğrenmeye hazırlık", ikinci faktör "öğrenmeye etkin katılım gösterme", üçüncü faktör "öğrenme sonuçlarını izleme" ve dördüncü faktör de "öğrenmeyi zenginleştirme" biçiminde adlandırılmıştır. Bu adlandırmaya göre; yedi maddeden oluşan, öğrenmeye hazırlık isimli ilk faktör, öğrencilerin okul dışı ya da ders öncesi öğrenme sorumluluklarıyla ilgili davranışlarını içermektedir. Ders öncesinde, kendilerine verilen görev ve sorumlulukları yerine getirme davranışları, derslerden yüksek düzeyde verim alabilmek için ders öncesi okuma, araştırma yapma, vb. davranışları, araç gereç ve öğrenme kaynaklarını temin etme, ders saat ve süresine uygun davranma, devamlılık vb. davranışlar, bu faktör altında yer almaktadır. Ölçekteki ikinci faktör olan ve toplam 9 maddeden oluşan öğrenmeye etkin katılım gösterme faktörü, öğrencilerin ders içinde ve ders saati sürecince, öğrenme sorumluluğu kapsamındaki eylem, çaba ve davranışlarını içermektedir. Öğrenme sonuçlarını izleme adlı, 8 maddeden oluşan üçüncü faktörde ise, öğrencilerin, ders sonrasında, okul dışı saatlerde, öğrenmelerini pekiştirme, tekrar etme, öğrenme eksiklerini giderme gibi öğrenme sorumluluğu kapsamındaki eylem ve davranışları ile ilgili maddeler yer almaktadır. Ölçeğin, 4 maddeden oluşan ve öğrenmeyi zenginleştirme adı verilen dördüncü faktörü, öğrencilerin okul ve dersiçi

öğrenmelerini kalıcı kılmak, zenginleştirmek, derste ele alınan konularda dağarcıklarına yeni bilgi ve beceriler eklemek amacıyla, gerçekleştirmeleri beklenilen çabalarla ilgili davranışlardan oluşmaktadır. İlgili alanyazında, öğrencilerin öğrenme sorumluluğunun yalnızca okul içi sorumluluk davranışları ile açıklanamayacağı ifade edilmektedir (Borman ve Overman, 2004; Catterall, 1998; Finn ve Rock, 1997). Bu yönüyle, geliştirilen ölçeğin faktör ve maddelerinin, içerikleri yönüyle, alanyazındaki bilgilerle örtüştüğü söylenebilir.

Bu ölçeğin, farklı okul kademeleri için kullanılabilirliğini belirlemek amacıyla geçerlik ve güvenirlik çalışmaları yapılabilir. Yine bu ölçek ile öğrencilerin öğrenme sorumluluğu ile ilgili davranışları yerine getirme durumları, farklı kişisel, demografik, akademik değişkenler yönünden incelemeyi amaçlayan araştırmalar yapılabilir. Son olarak, bu ölçek ile öğrencilerin öğrenme sorumluluğu ile ilgili davranışları yerine getirme durumlarını, farklı dersler ve içerik alanları yönünden ortaya koyan, konu hakkında yaşanan olası sorunların ve nedenlerinin belirlenmesini konu edinen araştırmalar gerçekleştirilebilir.