http://doi.org/10.22282/ojrs.2020.66

EXAMINATION OF THE SELF-DIRECTED LEARNING READINESS LEVELS OF PRE-SERVICE TEACHERS BASED ON CERTAIN VARIABLES

Barış KARAOĞLU[1], Osman PEPE[2]

[1]Bingöl Üniversitesi, Beden Eğitimi ve Spor Yüksekokulu, Bingöl/Türkiye
[2]Süleyman Demirel Üniversitesi, Spor Bilimleri Fakültesi Isparta/Türkiye

ABSTRACT

The present study aims to examine the self-directed learning readiness levels of pre-service teachers based on certain variables. The population of the study consisted of 163 students randomly selected from the Department of Physical Education and Sports Teaching within the School of Physical Education and Sports at Bingöl University. The "Self-Directed Learning Readiness Scale" and a "Personal Information Form" were used as data collection tools. The statistical analyses of the data obtained from the Personal Information Form and the Self-Directed Learning Readiness Scale were performed using the SPSS 20.0 package program. The participants' personal information, inventory total scores and factor scores were presented by calculating their frequency (f) and percentage (%) values. In order to determine whether the self-directed learning readiness levels of the participants differed by independent variables, the t-test was performed in comparisons based on gender and the one-way analysis of variance (ANOVA) was performed in comparisons based on age, grade level, weekly study hours and GPA.

As a result of the present study, statistically significant differences were found between self-directed learning readiness levels and the variables age, grade level, weekly study hours and GPA. No statistically significant difference was found in the comparisons based on the gender variable.

In conclusion, it is thought that self-directed learning readiness is an important skill for the acquisition of new knowledge. Pre-service teachers should acquire this skill and convey it to their students in the future. It is thought that this skill will be beneficial for future generations.

Key Words: self-directed learning readiness, pre-service teachers, physical educationll.

INTRODUCTION

Social paradigms, the rapid increase in information and technological developments affect the concepts of cognition and learning and make it imperative for individuals to possess self-directed learning skills today. Individuals today are expected to reach information in line with their needs and adapt to life in this way. At this point, individuals are required to possess self-directed learning skills to be able to establish learning conditions for themselves (Ulusoy, & Karakuş, 2018). In other words, it is very important for individuals to be in possession of self-directed learning skills in order to survive within the global race on developing technology and communication (Francis, & Flanigan, 2012; Guglielmino et al., 1987; Trilling, & Fadel, 2009). It is considered to be a more effective way of learning (Manning, 2007). Pintrich (2000) defines self-directed learning as an effective and constructivist process in which learners go into the effort of observing, managing and monitoring their cognition after they establish their goals, and guided and restricted by these goals and the learning environment they are in. Self-directed learning has personal, social and political aspects and contexts. It is emphasized that establishing a balance between these is important for self-directed learning readiness (Wiley, 1983). Fisher et al. define the concept of self-directed learning readiness as the degree to which individuals possess the dispositions, abilities and personal features necessary to acquire self-directed learning skills (Fisher et al., 2001). In order for self-directed learning readiness to be realized, individuals are required to meet certain cognitive, affective and physical requirements. Individuals who acquire self-directed learning skills also obtain problem-based and lifelong learning skills (Du, 2012).

In the process of self-directed learning, teachers play an important role in establishing the readiness of students and enabling them to internalize the skill. In this process, teachers' level of knowledge, skills, principles, values and sense of understanding are undeniably significant for students to receive better education (Karataş & Başbay, 2014). Additionally, it can be said that teachers with self-directed learning skills will be more successful in reaching information in accordance with changing conditions and internalizing knowledge (Şahin & Erden, 2009). Since learning by researching, experimenting, doing and living is the main output within the educational process, the readiness level of students is very significant in this process of behavioral change and acquisition of desired behavior. For this reason, as stated by Başar, students should possess the cognitive, affective and psychomotor behaviors necessary

for the new information, attitudes and behaviors they will acquire (Aşkın, 2015). Due to the fact that the development of individuals' learning skills forms the basis for the development of lifelong learning skills, individuals should always demonstrate readiness towards learning.

In the literature review conducted by the researchers, previous studies were found on the examination of self-directed learning readiness levels of pre-service teachers (Salas, 2010; Yenilmez, & Şan, 2008) and university students (Sarmaşoğlu, 2009; Haron, 2003; Smedley, 2007; Yuan et al., 2012; Kar et al., 2014; Prabjanee, & Inthachot, 2013; Aşkın, 2015; Sahoo, 2016; Shirke et al., 2016) in various departments. It was observed that there are a limited number of studies examining the self-directed learning readiness levels of physical education and sports teacher candidates (Turan, & Koç, 2018).

When the information above is evaluated as a whole, it is observed that the concept of self-directed learning readiness can be effective in different areas of life to various extents. However, due to the limited number of studies on the self-directed learning readiness levels of university students studying in the field of physical education and sports, it is thought that the present study will provide a different perspective and contribute to the field of physical education and sports. In this context, the present study aims to examine the self-directed learning readiness levels of physical education and sports teacher candidates based on certain variables.

MATERIAL AND METHOD

In the present study, the descriptive survey method, which aims to reveal the present situation, was used. The descriptive survey model is a study approach that aims to describe a past or present situation as it is. It is aimed to describe the events, individuals or objects included in the study as they are and in their own conditions. These elements are not changed or affected in any way (Karasar, 2004).

Selection of Volunteer Groups

163 students selected among 183 students studying in the Department of Physical Education and Sports Teaching at Bingöl University School of Physical Education and Sports using the simple random sampling method (Çıngı, 1994) voluntarily participated in the study.

Data Collection Tools

The Self-Directed Learning Readiness Scale and the Socio-Demographic Information Form were used as data collection tools.

Socio-Demographic Information Form

The Socio-Demographic Information Form includes 5 questions aimed at obtaining information regarding the gender, age, grade level, weekly study hours and GPA of the participants.

Table 1. Socio-Demographic Features of the Participants

	Variables	N	%
Gender	Male	113	69.3
	Female	50	30.7
Age	18-21	85	52.1
	22-25	69	42.3
	26 and older	9	5.5
Grade Level	1st year	51	31.3
	2nd year	58	35.6
	3rd year	54	33.1
Weekly Study Hours	1-10	99	60.7
	11-20	31	19.0
	21-30	20	12.3
	31 and over	13	8.0
GPA	1.25-1.99	9	5.5
	2.00-2.99	110	67.5
	3.00-4.00	44	27.0

Table 1 shows that 69.3% of the participants are male while 30.7% are female, 52.1% are aged 18-21 while 42.3% are aged 22-25 and 5.5% are 26 and older. 31.3% of the participants are 1st-year students while 35.6% are 2nd-year students and 33.1% are 3rd-year students. In terms of weekly study hours, 60.7% study for 1-10 hours a week while 19.0% study for 11-20 hours, 12.3% study for 21-30 hours and 8.0% study for 31 hours and more. 5.5% of the participants have a GPA of 1.25-1.99 while this ratio is 67.5% for the 2.00-2.99 range and 27.0% for the 3.00-4.00 range.

Self-Directed Learning Readiness Scale

The Self-Directed Learning Readiness Scale was used to determine the self-directed learning readiness levels of the participants. The Turkish adaptation of the Self-Directed Learning Readiness Scale (SDLRS) developed by Fisher et al. (2001) was conducted by Şahin

and Erden (2009) with 130 classroom teachers. SDLRS is structured as a 5-point Likert scale (1=Strongly Disagree, 2=Disagree, 3=Unsure, 4=Agree, 5=Strongly Agree). In order to test the reliability of the measurements, the Cronbach Alpha coefficient was calculated for each sub-dimension. It was calculated as .90 for the sub-dimension of "Self-Direction", .89 for "Desire for Learning" and .85 for "Self-Control". Nunally (1978) emphasized that the coefficient for the reliability measurement needs to be over 70. In this context, based on the reliability coefficients obtained, it can be said that the measurement results are reliable.

Data Analysis

The IBM SPSS statistical package program was used in the analysis of the data. It was determined that the skewness and kurtosis values of the scales ranged between -1 and +1 (Table 2). Values in this range indicate that there are no excessive deviations from normality (Büyüköztürk, 2007). In light of this information, the data were considered to be normally distributed. The participants' personal information, inventory total scores and factor scores were presented by calculating their frequency (f) and percentage (%) values. In order to reveal the difference between the scores obtained from the scales, the independent t-test was used for the gender variable and the one-way analysis of variance (ANOVA) was used for the variables of age, grade level, weekly study hours and GPA.

Table 2. The Skewness-Kurtosis Values of the Scale Scores

	N	Skewness	Kurtosis
Self-Direction	163	-.445	-.343
Desire for Learning	163	.302	.934
Self-Control	163	-.111	-.175
Readiness Total	163	-.124	-.625

FINDINGS

Table 3. Descriptive Statistics of the Participants' Answers

	N	Minimum	Maximum	X±SS
Self-Direction	163	55.00	99.00	83.82±9.63
Desire for Learning	163	45.00	92.00	61.92±7.33
Self-Control	163	50.00	85.00	69.82±7.69
Readiness Total	163	160.00	260.00	215.77±21.97

Table 3 shows that the participants had a score average of 83.82±9.63 from the Self-Direction sub-dimension, 61.92±7.33 from the Desire for Learning sub-dimension, 69.82±7.69 from the Self-Control sub-dimension and 215.77±21.97 from the Readiness Total score.

Table 4. T-Test Results by Gender

	Gender	n	X± Ss	t	P
Self-Direction	Male	113	83.56±9.63	-.514	.608
	Female	50	84.40±9.69		
Desire for Learning	Male	113	61.21±6.98	-1.868	.064
	Female	50	63.52±7.89		
Self-Control	Male	113	69.74±7.81	-.181	.857
	Female	50	69.98±7.50		
Readiness Total	Male	113	214.72±22.33	-.914	.362
	Female	50	218.14±21.17		

According to Table 4, it was determined that there was no significant difference in the participants' scores from the Self-Directed Learning Readiness Scale based on the gender variable.

Table 5. ANOVA Results by Age

	Age	n	X± Ss	F	P	LSD
Self-Direction	18-21[1]	85	85.31±9.19	4.289	.015	**1-2** **2-3**
	22-25[2]	69	81.41±9.71			
	26 and older[3]	9	88.22±9.71			
Desire for Learning	18-21[1]	85	63.24±7.31	4.186	.017	**1-2**
	22-25[2]	69	60.03±7.06			
	26 and older[3]	9	64.00±6.98			
Self-Control	18-21[1]	85	70.67±7.43	2.440	.090	-
	22-25[2]	69	68.38±8.05			
	26 and older[3]	9	72.78±5.65			
Readiness Total	18-21[1]	85	219.49±20.22	5.037	.008	**1-2** **2-3**
	22-25[2]	69	209.81±22.93			
	26 and older[3]	9	226.33±20.81			

In Table 5, when the participants' Self-Directed Learning Readiness levels are examined based on the age variable, it is observed that the age group of 26 and older had the highest score average in the sub-dimension of Self-Direction with 88.22±9.71 while the age group of 22-25 had the lowest score average with 81.41±9.71. In the sub-dimension of Desire for Learning, the age group of 26 and older had the highest score average with 64.00±6.98 while the age group of 22-25 had the lowest score average with 60.03±7.06. In the sub-dimension of Self-Control, the age group of 26 and older had the highest score average with 72.78±5.65 while the age group of 22-25 had the lowest score average with 68.38±8.05. In Readiness Total, the age group of 26 and older had the highest score average with 226.33±20.81 while the age group of 22-25 had the lowest score average with 209.81±22.93. As a result of the statistical analysis, significant differences were found.

Table 6. ANOVA Results by Grade Level

	Grade Level	n	X± Ss	F	P	LSD
Self-Direction	1st year[1]	51	82.16±9.82	4.656	.011	**1-2** **2-3**
	2nd year[2]	58	86.84±8.95			
	3rd year[3]	54	82.13±9.52			
Desire for Learning	1st year[1]	51	61.67±8.36	.684	.506	-
	2nd year[2]	58	62.79±6.69			
	3rd year[3]	54	61.22±6.97			
Self-Control	1st year[1]	51	68.73±7.57	2.729	.068	-
	2nd year[2]	58	71.69±6.91			
	3rd year[3]	54	68.83±8.34			
Readiness Total	1st year[1]	51	212.78±22.01	3.183	.044	**1-2** **2-3**
	2nd year[2]	58	221.53±19.91			
	3rd year[3]	54	212.40±23.14			

In Table 6, when the participants' Self-Directed Learning Readiness levels are examined based on the grade level variable, it is observed that the 2nd year students had the highest score

average in the sub-dimension of Self-Direction with 86.84±8.95 while the 3rd year students had the lowest score average with 82.13±9.52. In the sub-dimension of Desire for Learning, the 2nd year students had the highest score average with 62.79±6.69 while the 3rd year students had the lowest score average with 61.22±6.97. In the sub-dimension of Self-Control, the 2nd year students had the highest score average with 71.69±6.91 while the 1st year students had the lowest score average with 68.73±7.57. In Readiness Total, the 2nd year students had the highest score average with 221.53±19.91 while the 3rd year students had the lowest score average with 212.40±23.14. As a result of the statistical analysis, significant differences were found.

Table 7. ANOVA Results by Weekly Study Hours

	Weekly Study Hours	n	X± Ss	F	P	LSD
Self-Direction	1-10[1]	99	84.61±9.40	.983	.403	-
	11-20[2]	31	82.81±8.66			
	21-30[3]	20	80.90±12.18			
	31 and over[4]	13	84.62±9.21			
Desire for Learning	1-10[1]	99	62.61±7.64	2.707	.047	**1-2** **1-4**
	11-20[2]	31	58.77±5.51			
	21-30[3]	20	61.90±7.45			
	31 and over[4]	13	64.23±7.03			
Self-Control	1-10[1]	99	70.60±7.60	1.771	.155	-
	11-20[2]	31	67.06±5.86			
	21-30[3]	20	69.55±9.44			
	31 and over[4]	13	70.85±8.64			
Readiness Total	1-10[1]	99	217.94±21.62	1.633	.184	-
	11-20[2]	31	208.65±17.59			
	21-30[3]	20	213.55±27.65			
	31 and over[4]	13	219.69±22.81			

In Table 7, when the participants' Self-Directed Learning Readiness levels are examined based on the weekly study hours variable, it is observed that the students with 31 and more hours of study per week had the highest score average in the sub-dimension of Self-Direction with 84.62±9.21 while the students with 21-30 hours had the lowest score average with 80.90±12.18. In the sub-dimension of Desire for Learning, the students with 31 and more hours had the highest score average with 64.23±7.03 while the students with 11-20 hours had the lowest score average with 58.77±5.51. In the sub-dimension of Self-Control, the students with 31 and more hours had the highest score average with 70.85±8.64 while the students with 11-20 hours had the lowest score average with 67.06±5.86. In Readiness Total, the students with 31 and more hours had the highest score average with 219.69±22.81 while the students with

11-20 hours had the lowest score average with 208.65±17.59. As a result of the statistical analysis, significant differences were found.

Table 8. ANOVA Results by GPA

	GPA	n	X± Ss	F	P	LSD
Self-Direction	1.25-1.99[1]	9	78.89±7.83	3.360	.037	1-3 2-3
	2.00-2.99[2]	110	83.12±9.87			
	3.00-4.00[3]	44	86.57±8.76			
Desire for Learning	1.25-1.99[1]	9	61.78±3.90	1.148	.320	-
	2.00-2.99[2]	110	61.36±8.01			
	3.00-4.00[3]	44	63.34±5.84			
Self-Control	1.25-1.99[1]	9	67.78±7.14	.923	.399	-
	2.00-2.99[2]	110	69.51±7.79			
	3.00-4.00[3]	44	71.00±7.56			
Readiness Total	1.25-1.99[1]	9	208.44±17.42	1,967	,143	-
	2.00-2.99[2]	110	214.31±22.90			
	3.00-4.00[3]	44	220.91±19.74			

In Table 8, when the participants' Self-Directed Learning Readiness levels are examined based on the GPA variable, it is observed that the students with a GPA of 3.00-4.00 had the highest score average in the sub-dimension of Self-Direction with 86.57±8.76 while the students with a GPA of 1.25-1.99 had the lowest score average with 78.89±7.83. In the sub-dimension of Desire for Learning, the students with a GPA of 3.00-4.00 had the highest score average with 63.34±5.84 while the students with a GPA of 2.00-2.99 had the lowest score average with 61.36±8.01. In the sub-dimension of Self-Control, the students with a GPA of 3.00-4.00 had the highest score average with 71.00±7.56 while the students with a GPA of 1.25-1.99 had the lowest score average with 67.78±7.14. In Readiness Total, the students with a GPA of 3.00-4.00 had the highest score average with 220.91±19.74 while the students with a GPA of 1.25-1.99 had the lowest score average with 208.44±17.42. As a result of the statistical analysis, significant differences were found.

DISCUSSION AND CONCLUSION

In the present study, it was determined that there was no statistically significant difference in the Self-Directed Learning Readiness levels of pre-service teachers based on the gender variable. Previous studies in the literature support the findings of the present study (Smedley, 2007; Sahoo, 2016; Pekel, 2016; Reio, 2004; Aydede, & Kesercioğlu, 2012). Although no statistically significant difference was found based on the participants' gender, it

was determined that the female pre-service teachers had higher Self-Directed Learning Readiness levels compared to male pre-service teachers. In line with the present study, Özbek et al. also reported the aforementioned finding (Özbek et al., 2017). In contrast with the present study, other studies in the literature reported that Self-Directed Learning Readiness levels showed significant differences based on the gender variable (Aşkın, 2015; Kılıç, & Sökmen, 2012; Reio, & Davis, 2005). According to Du (2012), the Self-Directed Learning approach enables individuals to discover and develop their own learning strategies and allows for faster and easier learning. Based on this view, it is thought as a result of the present study that the female participants had higher Self-Directed Learning Readiness levels compared to the male participants due to the fact that they had higher awareness towards the aforementioned qualities related to Self-Directed Learning Readiness.

In the present study, a significant difference was found between the participants' Self-Directed Learning Readiness levels and the gender variable in the sub-dimensions of Self-Direction, Desire for Learning and Readiness Total ($p<0.05$) while no significant difference was found in the sub-dimension of Self-Control ($p>0.05$). The findings of Reio and Davis are in parallel with the present study (Reio, & Davis, 2005). This is thought to be due to the fact that experience affects learning and that the level of self-learning is positively affected by this. Self-Directed Learning should not be thought of only in terms of lifelong learning, but the necessity of possessing this skill in all learning processes should be understood (Ulusoy, & Karakuş, 2018).

When the participants' Self-Directed Learning Readiness levels were examined in terms of the grade level variable, a significant difference was found in the sub-dimensions of Self-Direction and Readiness Total ($p<0.05$) while no significant difference was found in the sub-dimensions of Desire for Learning and Self-Control ($p>0.05$). Certain studies in the literature are in parallel with the present study. Shirke et al. reported that 1st-term students had higher Self-Directed Learning Readiness levels compared to 5th-term students (Shirke et al., 2016). Additionally, Kar et al. (2014) found a significant difference between the grade level variable and Self-Directed Learning Readiness levels (Kar et al., 2014). However, other studies in the literature state that the grade level variable does not create a significant difference (Kılıç, & Sökmen, 2012; Salas, 2010). As a result of the present study, it was found that Self-Directed

Learning Readiness levels increased in direct proportion to grade level. This is thought to be due to the academic experiences of the pre-service teachers.

When the relationship between the participants' Self-Directed Learning Readiness levels and weekly study hours was examined, a significant difference was found in the sub-dimension of Desire for Learning ($p<0.05$) while no significant difference was found in the sub-dimensions of Self-Direction, Self-Control and Readiness Total ($p>0.05$). As a result of the present study, it was found that Self-Directed Learning Readiness levels increased in line with study hours (Table 7). In parallel with the present study, Özbek et al. (2017) also reported the aforementioned finding (Özbek et al., 2017). Since increased study hours will improve the knowledge of individuals, it is thought that learning becomes easier as the individual uses this fund of knowledge in acquiring new information. The significant difference in the sub-dimension of Desire for Learning is attributed to the fact that pre-service teachers achieve further success by improving, refreshing and reinforcing their knowledge through studying.

When the relationship between the participants' Self-Directed Learning Readiness levels and GPA was examined, a significant difference was found in the sub-dimension of Self-Direction ($p<0.05$) while no significant difference was found in the sub-dimensions of Desire for Learning, Self-Control and Readiness Total ($p>0.05$). It was found that Self-Directed Learning Readiness levels increased in line with academic success (Table 8). Many studies in the literature are in parallel with the present study (Alkan, 2012; Aydede, & Kesercioğlu, 2012; Chou, 2012; Khan et al., 2012; Sarmaşoğlu, 2009; Shinkareva, & Benson, 2007). Reio (2004) and Hsu & Shiue (2005) found that academic success predicted Self-Directed Learning Readiness. On the other hand, in contrast with the present study, Yenilmez & Şan (2008) and Deyo et al. (2011) reported that there was no significant difference between Self-Directed Learning Readiness levels and academic success. The reason why individuals with high academic success also have high Self-Directed Learning Readiness levels is attributed to the fact that these individuals are able to better convey their knowledge to new situations.

In conclusion, it was found that the variables of age, grade level, weekly study hours and academic success caused a significant difference in the Self-Directed Learning Readiness levels of the pre-service teachers while the gender variable had no effect. It was concluded that individuals must be well-equipped in order to learn effectively. It is thought that well-equipped

individuals will be able to learn in a quicker and more permanent manner by effectively implementing the concept of readiness when necessary.

SUGGESTIONS

1. Self-Directed Learning Readiness is an important skill for the acquisition of new information. A limited number of variables could be examined in the present study. Broader interpretation can be made by examining the relationships with different variables.
2. Course contents can be programmed with an emphasis on Self-Directed Learning.
3. In the creation of teaching environments, learning environments that positively affect Self-Directed Learning Readiness can be established.
4. Since self-learning will lead to the acquisition of more permanent knowledge, courses on this subject can be featured in undergraduate education for teacher candidates to practice the approach with their students in the future.
5. Activities to raise awareness towards Self-Directed Learning Readiness can be conducted through various courses or in-service training seminars.

REFERENCES

Alkan, F. (2012). Kendi kendine öğrenmenin kimya laboratuvarında öğrenci başarısına, öğrenme hazırbulunuşluğuna, laboratuvar becerilerine yönelik tutumuna ve endişesine etkisi. Yayımlanmamış doktora tezi. Hacettepe Üniversitesi Fen Bilimleri Enstitüsü, Ankara.

Aşkın, İ. (2015). Üniversite öğrencilerinin öz-yönetimli öğrenme becerilerinin incelenmesi. Yayımlanmamış doktora tezi. Hacettepe Üniversitesi, Eğitim Bilimleri Enstitüsü, Ankara.

Aydede, M. N. & Kesercioğlu, T. (2012). Aktif öğrenme uygulamalarının öğrencilerin kendi kendine öğrenme becerilerine etkisi. Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 43, 37-49.

Başar, E. (2001). Genel öğretim yöntemleri. *Kardeşler Ofset ve Matbaa*, Samsun.

Büyüköztürk, Ş. (2007). Sosyal bilimler için veri analizi el kitabı. (7.Baskı). *Pegem Akademi Yayıncılık*, 40.

Chou, P. N. (2012). The relationship between engineering students' self-directed learning abilities and online learning performances: A pilot study. *Contemporary Issues in Education Research*, 5 (3), 33-38.

Çıngı, H. (1994). Örnekleme kuramı, *H.Ü. Fen Fakültesi Yayınları*, Ankara, 346.

Deyo, Z. M., Huynh, D., Rochester, C., Sturpe, A.D. & Kiser, K. (2011). Readiness for self-directed learning and academic performance in an abilities laboratory course. *American Journal of Pharmaceutical Education*, 75(2), 25.

Du, F. (2012). Using study plans to develop sdl skills: implications from a pilot project. *College Student Journal*, 46(1), 223-232.

Fisher, M., King, J. & Tague, G. (2001). Development of a self-directed learning readiness scale for nurse education. *Nurse Education Today*, 21(7), 516-525.

Francis, A., & Flanigan, A. (2012). Self-directed learning and higher education practices: Implications for student performance and engagement. MountainRise. *The International Journal of the Scholarship of Teaching and Learning*, 7(3), 1-18.

Guglielmino, P. J., Guglielmino, L. M., & Long, H. B. (1987). Self-directed learning readiness and performance in the workplace.Higher Education, 16(3), 303-317.

Haron, S. (2003). The relationship between readiness and facilitation of self-directed learning and academic

achievement: A comparative study of web-based distance learning models of two universities. Universiti Putra Malaysia.
Hsu, Y. C., & Shiue, Y. M. (2005). The effect of self-directed learning readiness on achievement comparing face-to-face and two-way distance learning instruction. International Journal of Instructional Media, 32(2), 143–156
Kar, S. S., Premarajan, K. C., Ramalingam, A., Iswarya, S., Sujiv, A., & Subitha, L. (2014). Self-directed learning readiness among fifth semester MBBS students in a teaching institution of South India. *Education for Health*, 27(3), 289-292.
Karasar, N. (2004). Bilimsel araştırma yöntemi. *Nobel yayıncılık*, Ankara, 52.
Karataş, K, & Başbay, M. (2014). Öz yönetimli öğrenmeye hazırbulunuşluk düzeyinin eleştirel düşünme eğilimi, genel öz yeterlik ve akademik başarı açısından yordanması. *İlköğretim Online*, 13(3), 916-933.
Khan, S. A., Hussain, I., Din, M. N., Ahmed, M. & Ahmed, S. (2012). Self directed learning in mathematics at secondary level. *Academic Research International*, 2(2), ISSN-L: 2223-9553, ISSN: 2223-9944.
Kılıç, D, & Sökmen, Y. (2012). Sınıf öğretmen adaylarının kendi kendine öğrenmeye yönelik hazırbulunuşluklarının incelenmesi. *Eğitim ve Öğretim Araştırmaları Dergisi*, 1 (3), 223- 228.
Manning, G. (2007). Self-directed learning: A key component of adult learning theory. *Business and Public Administration Studies*, 2(2), 104-112.
Nunnally, J. C. (1978). Psychometric theory (2nd ed). New York: McG-raw-Hill.
Özbek, R., Eroğlu, M., & Donmuş, V. (2017). Öğretmen adaylarının kendi kendine öğrenmeye ilişkin hazırbulunuşluklarının incelenmesi. *Uluslararası Eğitim Programları ve Öğretim Çalışmaları Dergisi*, 7(13), 17-35.
Pekel, A. (2016). Examining the relation between the general self – sufficıency levels and self– directed learning readiness level of physical education teachers. *International Journal of Development Research* 6(8), 8952-8957
Pintrich, P. R. (2000). The role of goal orientation in self-regulated learning. In M.Boekaerts, P. Pintrich and M. Zeidner (Eds.). The Handbook of Self- Regulation: *Theory, Research, and Applications*, 451–502.
Prabjanee, D., & Inthachot, M. (2013). Self-directed learning readiness of college students in Thailand. *Journal of Educational Research and Innovation*, 2(1), 1-11.
Reio, T. G. (2004). Prior knowledge, self-directed learning readiness, and curiosity: Antecedents to classroom learning performance. *International Journal of Self-directed learning*, 1(1), 18-25.
Reio, T. G., & Davis, W. (2005). Age and gender differences in self-directed learning readiness: A developmental perspective. *International Journal of Self-Directed Learning*, 2(1), 40-49.
Sahoo, S. (2016). Finding self-directed learning readiness and fostering self-directed learning through weekly assessment of self-directed learning topics during undergraduate clinical training in ophthalmology. *International Journal of Applied and Basic Medical Research*,6(3), 166-169.
Salas, G. (2010), Öğretmen adaylarının kendi kendine öğrenmeye yönelik hazırbulunuşlukları. Yayımlanmamış Yüksek Lisans Tezi. Anadolu Üniversitesi, Eğitim Bilimleri Enstitüsü, Eğitim Programları ve Öğretimi, Eskişehir.
Sarmaşoğlu, Ş. (2009). Hemşirelik öğrencilerinin kendi kendine öğrenmeye hazır oluş düzeyleri. Yayımlanmamış yüksek lisans tezi. Hacettepe Üniversitesi, Ankara.
Shinkareva, O. N., & Benson, A. D. (2007). The relationship between adult students' instructional technology competency and self-directed learning ability in an online course. *Human Resource Development International*, 10(4), 417- 435.
Shirke, R. P., Rawat, A., Chandar, V., Walia, J., Wasim, S., & Bhat, N. K. (2016). Evaluation of the self-directed learning readiness of Medical Undergraduates in pediatrics department: A study from medical college in Uttarakhand state of India. *International Journal of Medical Science and Public Health*, 5(12), 2610-2614.
Smedley, A. (2007). The self-directed learning readiness of first year bachelor of nursing students. *Journal of Research in Nursing*, 12(4), 373-385.
Şahin, E. (2015). Meslek lisesi öğretmenlerinin özyönetimli öğrenmeye hazırbulunuşluk düzeylerinin ve öğretim stili tercihlerinin incelenmesi (Bursa ili örneği). *Abant İzzet Baysal Üniversitesi Eğitim Fakültesi Dergisi*, 15 (2), 297-316.
Şahin, E., & Erden, M. (2009). Öz yönetimli oğrenmeye hazırbulunuşluk ölçeğinin geçerlik ve güvenirlik çalışması. *e-Journal of New World Sciences Academy*, 4(3), 695-706.
Trilling, B., & Fadel, C. (2009). 21st century skills: Learning for life in our times. John Wiley & Sons, 8.
Turan, M. B, & Koç, K. (2018). The ımpact of self-directed learning readiness on critical thinking and self-

efficacy among the students of the school of physical education and sports. *International Journal of Higher Education*, 7(6), 98-105.

Ulusoy, B, & Karakuş, F. (2018). Lise öğrencilerinin öz yönetimli öğrenmeye hazırbulunuşlukları ile eleştirel düşünme eğilimlerinin incelenmesi. *Mersin Üniversitesi Eğitim Fakültesi Dergisi*, 14(2), 684-699.

Wiley, K. R. (1983). Effects of a self-directed learning project and preference for structure on self-directed learning readiness. *Proceedings of the 23rd Annual Adult Education Research Conference*, 227-232.

Yenilmez, K, & Şan, İ. (2008). Matematik öğretmen adaylarının kendi kendine öğrenmeye hazır oluş düzeyleri. *XVII. Ulusal Eğitim Bilimleri Kongresi*. Sakarya Üniversitesi, Sakarya.

Yuan, H.B., Williams, B.A., Fang, J.B., & Pang, D. (2012). Chinese baccalaureate nursing students' readiness for self-directed learning. *Nurse Education Today*, 32(4), 427-431.