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The Relationship of Lifelong Learning Competencies with Learning Approaches and Self-Efficacy*

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Abstract. The study aims to investigate the relationship between the lifelong learning competencies of the students studying in the faculty of education and learning approaches as well as self-efficacy. Lifelong Learning Competence Scale, Learning Approaches Scale, and General Self-Efficacy Scale were used to collect the data for the study. In the study, findings showed that self-management competencies and deep learning among the sub-dimensions of lifelong learning competencies of the students studying in the faculty of education are positively and significantly correlated with strategic learning and self-efficacy, it has been also found that learning-to-learn competency sub-dimension and deep learning, strategic learning, as well as superficial learning, are also positively and significantly correlated; however, no significant relationship was found with self-efficacy. Initiative and entrepreneurship competencies and the sub-dimension of information acquisition competencies were found to be positively correlated with deep learning, strategic learning, and self-efficacy; however, no significant relationship was found with superficial learning. The sub-dimension of digital competencies and the sub-dimension of decisionmaking competence have a significant and positive relationship with deep learning, strategic learning, and self-efficacy however, no significant relationship was found with superficial learning.

Keywords: Lifelong learning, learning approaches, self-efficacy, students of education faculty.

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1. INTRODUCTION

While education for the information society in the information age makes itself evident at every stage of life, societies with a lifelong learning philosophy make the concept of lifelong learning the focus of education. As a result of the developments in the field of science and technology, catching up with the world's rapidly changing harmony is seen as very important for the development of societies and for the societies themselves (Doğan & Varank, 2014). Lifelong learners are needed to meet the requirements of the current century, accurately analyze existing facts, and keep up to date and adapt to the day (Oriji & Felicia Uzaagu, 2019). Continuous education is the key to achieving this harmony and lifelong learning is considered as a supporter and the solution to continuous education (Çınar, 2009; Uzunboylu & Hürsen, 2011). In this context, a world profile is being formed in which those countries and societies, which can realize the necessity to go beyond the conceptual change in the field of application and are prepared for new changes, will be in control (Çınar, 2009). In this respect, lifelong learning can be expressed as a rather comprehensive and interesting approach (Özen, 2011). When lifelong learning is considered in terms of the current age, while it is important that the knowledge and skills produced are up to date, in other words the actuality and the quality of the manpower needed are gaining importance, a constant change is also being more and more important (Akkoyunlu, 2008). Individuals who adapt to this change and find and use the necessary information about the solution when they face the problems brought about by this change and accumulate new information on this information have lifelong learning competence (Polat & Odabaşı, 2008). Learning activities take place on the center of lifelong learning competencies. While carrying out these learning activities, individuals can adopt different learning approaches. The concept of learning approaches were put forward by Marton and Saljo (1976) and divided into two; deep learning approach and superficial learning approach. The strategic learning approach, which is defined as scoring high by acting in accordance with the demands of evaluation, was introduced to the literature (Ak, 2008; Ozan, Karabacak, Kızıltaş & Küçükoğlu, 2017). The deep learning approach means exploring for permanent knowledge and performing meaningful learning by establishing the relationship between subjects, superficial learning means memorizing and using the information when it is needed and the strategic learning approach refers to achieving the goals by getting high marks (Ak, 2008; Çolak & Cırık, 2016). Individuals who use learning approaches, especially those who use deep learning approaches and those with high self-efficacy can use their characteristics to acquire lifelong learning competencies. In education and training, on the other hand, apart from the social expectations in which form, context, and quality gain importance day by day, it is important to take personal evaluations of personal abilities into consideration. At this point, one of the concepts that comes to the fore when the individual's self-assessments are concerned is the concept of self-efficacy (Yılmaz, Gürçay & Ekici, 2007). Self-efficacy is an individual's belief and self-perception that he/she will successfully arrange and perform the desired behaviors to achieve the results of his / her actions in a particular area (Bandura, 1986).

Self-efficacy belief in the learning process is necessary and motivating for the individual to acquire competence (Schunk, 1996). In this context, it is aimed to investigate the relationship between the lifelong learning competencies of education faculty students and learning approaches as well as self-efficacy in terms of various variables. Developments in the 21st century have changed not only the quantitative majority but also the perceptions of personal development and social progress. Societies create various categories of qualifications and competencies for the individuals they are trying to raise (Kuzu, Demir & Canpolat, 2015). These qualities are constant development, adaptation to changes, using what you learned in all areas of life, and learning-to-learn, in other words, lifelong learning competencies. Having these competencies may be related to knowing and using learning approaches and self-efficacy. Creating a common value from competencies, skills, and components for lifelong learning and observing these values in practice can be closely related to how individuals use learning approaches for lifelong learning. Therefore, it is expected that there will be a significant relationship between lifelong learning competencies, the learning approaches adopted and self-efficacy.

The problem sentence of the study: ''Are lifelong learning competencies of education faculty students related to their learning approaches and self-efficacy?"

Sub Problems

1. Are self-management competencies from lifelong learning competencies of education faculty students significantly predicted by their learning approaches, self-efficacy, and grade point averages?
2. Are learning-to-learn competencies from lifelong learning competencies of education faculty students significantly predicted by their learning approaches, self-efficacy, and grade point averages?
3. Are initiative and entrepreneurship competencies from lifelong learning competencies of education faculty students significantly predicted by their learning approaches, self-efficacy, and grade point averages?
4. Are information acquisition competencies from lifelong learning competencies of education faculty students significantly predicted by their learning approaches, self-efficacy, and grade point averages?
5. Are digital competencies from lifelong learning competencies of education faculty students significantly predicted by their learning approaches, self-efficacy, and grade point averages?
6. Are decision-making competencies from lifelong learning competencies of education faculty students significantly predicted by their learning approaches, self-efficacy, and grade point averages?

2. METHOD

In this section, the information about the research method, the universe-sample-study group, and the data collection tool are presented respectively.

Research Design

The research model is a general survey that aims to address the relationships between two or more variables in a quantitative research design. The aim of the survey-type researche is to present ''a depiction by taking a photograph of the current situation'' related to the research topic (Büyüköztürk, Kılıç Çakmak, Akgün, Karadeniz & Demirel, 2013, p. 177-178).

Research Sample

Population of the study consists of the students of the Faculty of Education at Sakarya University in the spring semester of 2018-2019. Random sampling method was used for the research sample. The sample of the study consists of students from all present departments of the Education Faculty of Sakarya University who were randomly selected from the universe (n = 897). Ethical approval was obtained from Sakarya University Ethics Committee with decision number 03 and dated 06.03.2019.

Table 1.

Students Participated in the Study

Gender	Year	Frequency	Percent
Female	1	202	30.376
	2	141	21.203
	3	150	22.556
	4	162	24.361
	Not Specified	10	1.504
	Total	665	100.000
Male	1	53	22.944
	2	32	13.853
	3	44	19.048
	4	97	41.991
	Not Specified	6	2.165
	Total	232	100.000

Data Collection Tools

Demographic information form prepared by the researchers and Lifelong Learning Competence Scale developed by Uzunboylu and Hürsen (2011), Learning Approaches Scale developed by Ekinci (2008), adaptation, validity and reliability study developed by Sherer et al. (1982) and General Self Efficacy Scale developed by İlhan (2010).

Data Analysis

T-test, variance analysis, descriptive statistics, correlation coefficients, and multiple regression analyzes were used depending on the research questions. In the analysis of variance and t-test, Levene F test was used to test whether the variance homogeneity condition was ensured. In the analyzes, effect sizes were interpreted according to Cohen (1988). Firstly, extreme value analysis was performed for all variables from the analyzes and Mahalanobis distance values were calculated. As a result, 29 people who were determined to be extreme values were excluded from the analysis. As a result, the analysis was continued with 868 people. Then, multiple linear relations and normal distribution, which are the conditions of regression, were examined. Since it was stated that the kurtosis and skewness should be in the range of -2 to +2 for the normal distribution, it was found that this condition was met in the research.(George & Mallery, 2016, p. 113; Tabachnick & Fidell, 2013, p. 45). The data of the study were analyzed through a statistical program and the significance level was determined as .05.

3. FINDINGS

3.1 Findings of the first Sub-Problem

Multiple regression analysis was used in the data analysis of this study to determine whether the self-efficacy levels of education faculty students were significantly predicted by deep learning, superficial learning, strategic learning, self-efficacy, and grade point averages. The results of this regression analysis are presented in Table 2.

Table 2.

Regression Analysis of the Predictors of Self-Management Competency Levels of the Education Faculty Students

Model	Predictor variables	B	Std. Error	Beta (β)	T	p	R	R^2	$\Delta R2$	F
	Constant	13.94	2.59		5.37	.001	0.578	0.334	0.330	86.3***
	Self-Efficacy	-.06	0.02	-.08	-2.29	.022				
	Deep Learning	.42	0.02	.50	16.85	.001				

Strategic Learning	.11	0.02	.15	4.96	.001
Superficial Learning	.03	0.02	.05	1.54	.122
Grade Point Average	.41	0.50	.02	0.83	.40

* p <.05, ** p < .01, *** p < .001

According to the results of multiple regression analysis, it is seen that the general model is significant according to the results of the multiple regression analysis conducted to determine whether the faculty of education students' self-efficacy levels are predicted by their deep learning, superficial learning, strategic learning, self-efficacy, and grade point averages (F= (862, 5) = 86.3, p =.001, R^2=.33). Accordingly, self-management competency levels of education faculty students are significantly predicted by deep learning (Ranking 1, high .50), strategic learning (Ranking 2, medium .15), and self-efficacy (Ranking 3, low .08). Considering the individual contributions of the variables to the model, deep learning, strategic learning positively predicts self-efficacy levels of individuals, whereas self-efficacy predicts self-management competency levels of the individuals negatively. It is seen that other independent variables which are superficial learning and grade point average, did not contribute to the model.

3.2 Findings of the second Sub-Problem

Multiple regression analysis was conducted to determine whether the learning-to-learn proficiency levels of education faculty students were significantly predicted by deep learning, superficial learning, strategic learning, self-efficacy and grade point averages. The results of the regression analysis for learning-to-learn competencies are presented in Table 3.

Table 3.

Regression Analysis of the Predictors of Learning-to-Learn Competency Levels of the Education Faculty Students

Model	Predictor variables	B	Std. Error	Beta (β)	T	p	R	R^2	ΔR2	F
	Constant	10.2	2.30		4.42	.001	.618	.382	.379	106.7***
	Self-Efficacy	-.09	.02	-.02	-.72	.472				

Deep Learning	.40	.022	.52	17.9	.001
Strategic Learning	.13	.02	.20	6.7	.001
Superficial Learning	-.01	.02	-.02	-.49	.624
Grade Point Average	.58	.44	.04	1.3	.189

* p <.05, ** p <.01, *** p <.001

According to the results of the multiple regression analysis conducted to determine whether the education faculty students' learning-to-learn competency levels are predicted by their deep learning, superficial learning, strategic learning, self-efficacy and grade point averages, it is seen that the general model is significant (F= (862, 5) = 106.7, p =.001, R^2=.38). Consequently, learning-to-learn competency levels of education faculty students are significantly predicted by deep learning (Ranking 1, high .52) and strategic learning (Ranking 2, medium). Considering the individual contributions of the variables to the model, the deep learning approach positively predicts individuals' learning-to-learn competency levels. Similarly, strategic learning also positively predicts the learning competence levels of education faculty students. It is seen that other independent variables which are self-efficacy, superficial learning, and grade point average have not contributed to the model.

3.3 Findings of the third Sub-Problem

Multiple regression analysis was conducted to determine whether the initiative and entrepreneurship proficiency levels of education faculty students were significantly predicted by deep learning, superficial learning, strategic learning, self-efficacy, and grade point averages. The results of the regression analysis are presented in Table 4.

Table 4.

Regression Analysis of the Predictors of Initiative and Entrepreneurship Competency Levels of the Education Faculty Students

Model	Predictor variables	B	Std. Error	Beta (β)	t	p	R	R^2	ΔR2	F
	Constant	8.49	1.61		5.27	.001	.714	.510	.508	179.7***

Self-Efficacy	-.05	.018	-.08	-2.94	.003
Deep Learning	.28	.016	.46	17.97	.001
Strategic Learning	.28	.014	.42	15.82	.001
Superficial Learning	.01	.013	.01	.22	.825
Grade Point Average	6.5	.311	5.2	.01	.998

* p <.05, ** p <.01, *** p <.001

According to the results of the multiple regression analysis conducted to determine whether the education faculty students' initiative and entrepreneurial competency levels are predicted by their deep learning, superficial learning, strategic learning, self-efficacy, and grade point averages, it is seen that the general model is significant (F= (862, 5) = 179.7, p =.001, R^2=.51). Thus, initiative and entrepreneurial competency levels of education faculty students are significantly predicted by deep learning (Ranking 1, high .46), and self-efficacy (Ranking 3, low .08). Considering the individual contributions of the variables to the model, the deep learning and strategic learning positively predicts the individuals' initiative and entrepreneurial competency levels while self-efficacy negatively predicts the individual's initiative and entrepreneurial competency levels. It is seen that other independent variables which are superficial learning and grade point average, did not contribute to the model.

3.4 Findings of the fourth Sub-Problem

Multiple regression analysis was conducted to determine whether the level of knowledge acquisition proficiency of education faculty students was significantly predicted by deep learning, superficial learning, strategic learning, self-efficacy, and grade point averages. The results of the regression analysis are presented in Table 5.

Table 5.

Regression Analysis of the Predictors of Information Acquisition Competency Levels of the Education Faculty Students

Model	Predictor variables	B	Std. Error	Beta (β)	t	p	*R*	R^2	*ΔR2*	*F*

Constant	11.1	1.3		8.18	.001	.498	.248	.243	56.7**
Self-Efficacy	-.09	0.1	-.20	-5.7	.001				
Deep Learning	.17	0.1	.42	13.2	.001				
Strategic Learning	.03	0.1	.08	2.2	.022				
Superficial Learning	.03	0.1	.10	2.9	.004				
Grade Point Average	.58	0.3	.07	2.2	.028				

* p <.05, ** p <.01, *** p <.001

According to the results of the multiple regression analysis conducted to determine whether the education faculty students' information acquisition competency levels are predicted by their deep learning, superficial learning, strategic learning, self-efficacy, and grade point averages, it is seen that the general model is significant (F= (862, 5) = 56.7, p =.001, R^2=.25). As a consequence, information acquisition competency levels of education faculty students are significantly predicted by deep learning (Ranking 1, high .42), self-efficacy (Ranking 2, medium .20), superficial learning (Ranking 3, low .10), strategic learning (Ranking 4, low .08), grade point average (Ranking 5, low .07), Considering the individual contributions of the variables to the model, the deep learning approach positively predicts the individuals' information acquisition competency levels while self-efficacy negatively predicts the individual's information acquisition competency levels. Strategic learning, superficial learning, and grade point averages also predict the information acquisition competency levels of education faculty students positively.

3.5 Findings of the fifth Sub-Problem

Multiple regression analysis was conducted to determine whether the digital competence levels of education faculty students significantly predicted deep learning, superficial learning, strategic learning, self-efficacy, and grade point averages. The results of the regression analysis are presented in Table 6.

Table 6.

Regression Analysis of the Predictors of Digital Competency Levels of the Education Faculty Students

Model	Predictor variables	B	Std. Error	Beta (β)	t	P	*R*	R^2	*ΔR2*	*F*
	Constant	12.6	1.9		6.5	.001	.377	.142	.137	28.6***
	Self-Efficacy	-.06	.02	-.10	-2.6	.008				
	Deep Learning	.19	.02	.35	10.3	.001				
	Strategic Learning	.01	.02	.01	0.2	.855				
	Superficial Learning	.04	.02	.10	2.7	.008				
	Grade Point Average	.83	.38	.07	2.2	.028				

* p <.05, ** p <.01, *** p <.001

According to the results of the multiple regression analysis conducted to determine whether the education faculty students' digital competency levels are predicted by their deep learning, superficial learning, strategic learning, self-efficacy, and grade point averages, it is seen that the general model is significant (F= (862, 5) = 28.6, p =.001, R^2=.14). Accordingly, digital competency levels of education faculty students are significantly predicted by deep learning (Ranking 1, high .35), superficial learning (Ranking 2, medium .10), self-efficacy (Ranking 2, medium .10) and grade point average (Ranking 3, low .07), Considering the individual contributions of the variables to the model, the deep learning approach positively predicts the individuals' digital competency levels while self-efficacy negatively predicts the individual's digital competency levels. Superficial learning and grade point averages also predict the digital competency levels of education faculty students positively. Strategic learning, on the other hand, has no significant contribution.

Findings of the sixth Sub-Problem

Multiple regression analysis was conducted to determine whether the decision-making proficiency levels of education faculty students were significantly predicted by deep learning, superficial learning, strategic learning, self-efficacy, and grade point averages.

The results of the regression analysis for decision-making competencies are presented in Table 7.

Table 7.

Regression Analysis of the Predictors of Decision-Making Competency Levels of the Education Faculty Students

Model	Predictor variables	B	Std. Error	Beta (β)	t	p	*R*	R^2	*ΔR2*	*F*
	Constant	4.58	1.01		4.5	.001	.503	.253	.249	58.4***
	Self-Efficacy	-.02	.01	-.07	-1.8	.060				
	Deep Learning	.14	.01	.46	14.6	.001				
	Strategic Learning	.03	.01	.10	2.9	.004				
	Superficial Learning	.01	.01	.03	0.7	.472				
	Grade Point Average	-.09	.19	-.02	-0.4	.639				

* p <.05, ** p <.01, *** p <.001

According to the results of the multiple regression analysis conducted to determine whether the education faculty students' decision-making competency levels are predicted by their deep learning, superficial learning, strategic learning, self-efficacy, and grade point averages, it is seen that the general model is significant (F= (862, 5) = 58.4, p =.001, R^2=.25). Consequently, decision making competency levels of education faculty students are significantly predicted by deep learning (Ranking 1, high .46) and strategic learning (Ranking 2, low .10). Considering the individual contributions of the variables to the model, the deep learning approach positively predicts the individuals' decision-making competency levels. Similarly, strategic learning also positively predicts the decision-making competency levels of education faculty students. It is seen that the other independent variables which are self-efficacy, superficial learning, and grade point average have not contributed to the model.

4. RESULTS, DISCUSSIONS, AND SUGGESTIONS

In this section, the results of the research are examined in relation to the related literature. Afterward, suggestions based on the research results and future research are given.

Lifelong learning refers to a learning process that individuals participate in throughout their lives in order to improve their living standards for personal and professional satisfaction (Martinez-Mediano, Lord & Rioperez Losada, 2013). It is clear that individuals must be lifelong learners in order to follow innovations in a rapidly developing and changing world and not to fall behind (Laal & Salamati, 2012). In other words, ensuring the integration of each individual into the learning process in the developing world of lifelong learning attaches considerable importance to the adaptation of modern society to the world as a producer and follower of all kinds of innovations (Collins, 2009). In this context, it is thought that the learning approaches and perceived self-confidence of the students of the faculty of education who are candidates for teachers as lifelong learning-hungry individuals have become more important.

According to the result of the study, the self-management competency levels of faculty of education students are significantly predicted by their deep learning, strategic learning, and self-efficacy. Accessing, using, and benefiting from the information require self-management competencies and skills as well as cognitive processes. Therefore, self-management is related to deciding what information an individual needs and how or in what ways he/she can obtain it. (Karataş & Başbay, 2014). In the research, deep learning and strategic learning positively predicted the self-management competency levels of individuals while self-efficacy predicted individuals' self-management competency levels negatively. While the learning approach dimension of this result is supported by the literature, the results related to self-efficacy are not supported. In the research conducted by Karataş and Başbay (2014), a positive and significant relationship was found between the preservice teachers' readiness for self-directed learning and the variables of critical thinking tendency, academic achievement, and general self-efficacy.

As a result of this research, it is promising for the future that the learning-to-learn competency of the education faculty students, deep learning and strategic learning approaches are positive and significant. As Selvi (2011) states, prospective teachers who have the awareness of lifelong learning during their undergraduate years bring this awareness to their professional lives. The progress of societies is realized by following the developments in the field of information and technology along with other training as well as formal education (Can, 2011). Lifelong learning competence includes the preparation of a learning plan and the transfer of what is learned to other competence areas (Şahin & Arcagök, 2014). In this context, learning-to-learn competency includes identifying opportunities by the individual, what needs exist in the learning process, how to plan the learning process, not giving up in the face of difficulties in the learning process, and benefiting from guidance service. When the competency of learning-to-learn is acquired, one tries to combine knowledge and skills with old learning

experiences in order to use and apply them to various areas (Akkuş, 2008; Kılıç, 2015). In this framework, it was determined that learning-to-learn competencies of the education faculty students were positive and significant by the deep learning approach and strategic learning approach. That superficial learning has no contribution to the model may be related to the fact that learningto-learn competency includes the individual in the learning process and it is far from memorization as well as the acquisition of pure information.

The levels of initiative and entrepreneurial competency levels of the education faculty students are significantly predicted by their deep learning, strategic learning, and self-efficacy. Initiative and entrepreneurial competence can be expressed as an individual's implementation of his/her thoughts, planning while realizing his ideas, taking risks into consideration, openness to innovation, and the ability to manage actions (Kılıç, 2015). Initiative and entrepreneurship competencies include risk-taking, creativity, the ability to implement or realize the ideas designed, and the ability to manage projects while supporting the development of individuals in business and home life as well as in commercial activities. With this competency, they can take various opportunities in personal jobs, gain success in business life and take initiative (Akkuş, 2008). Entrepreneurship, which can be expressed as the ability of individuals to realize their ideas, is of great importance in terms of a qualified workforce in education and economic development. According to Knapper (2006), it is not the transfer of knowledge that is important for lifelong learning but rather the entrepreneurship competency and competency to take the initiative of the individuals. Kılıç and Tuncel (2014) found that teachers' lifelong learning tendencies were high but their levels of individual innovation were low.

As a result of this research, it was determined that initiative and entrepreneurship competencies of the education faculty students were significantly predicted in the deep learning and strategic learning dimensions of the learning approaches. Those who adopt a deep learning approach examine the different aspects of knowledge in order to see the whole photograph and combine personal experiences with the connecting paths of knowledge (Batı, Tetik & Gürpınar, 2009; Diseth, 2002). In this context, when individuals take initiative the deep learning approach requires them to think multi-dimensionally, to make logical conclusions, and to be prepared for negative consequences in spite of everything. In this respect, the concept of entrepreneurship, which is present in various disciplines, is an important lifelong learning competency for teachers and prospective teachers who have important responsibilities in education and training.

As a result of this research, it was found that the initiative and entrepreneurial competency of the education faculty students were negatively predicted by their self-efficacy. Initiative and entrepreneurship competencies are related to decision-making on any subject, monitoring and orientation of professional developments, realizing ideas and projects in the professional field and executing the plan of these projects, taking part in activities requiring expertise, choosing learning environments and adapting them

according to the professional developments and using these competencies in order to reach the goals (Uzunboylu & Hürsen, 2011). Self-efficacy, on the other hand, is coping with complicated, demanding situations which affect the individual psychologically and make the individual anxious, the feeling of self-confidence in the face of openness to innovations while it also means continuity of the behaviors based on experiences, therefore it is a behavior estimating factor (Aypay, 2010). As a result of the research, the fact that self-efficacy decreases while initiative and entrepreneurship competencies increase, or self-efficacy increases while initiative and entrepreneurship competencies decreases may be related to occupational anxiety or occupational expectations of the education faculty students who make up the sample of the study. In other words, it may be related to the approaches of society, family, and individuals toward the teaching profession. Teacher candidates of the faculty of education start an intensive preparation process for the exam especially when they reach the 3rd and 4th year and they head towards being appointed and working as civil servants. In this context, as Duman, Baykan, Köroğlu, and Yılmaz (2014) stated, their level of following innovations decreases, and those who follow innovations look at the future with concern. Therefore, it is important for individuals to make themselves open to different disciplines and developments in these disciplines instead of just progressing in one profession. This can be achieved by supporting individuals' initiative and entrepreneurial competencies with self-efficacy. According to this fact, it can be stated that developing lifelong learning competencies and increasing self-efficacy has more significance than ever before. In this respect, while entrepreneurship is studied with different dimensions in the literature, it may be necessary to focus on the social entrepreneurship of prospective teachers for this research. Teachers with lifelong learning competencies will also serve the three purposes of lifelong learning. In this context, it can be stated that initiative and entrepreneurial competencies and especially social entrepreneurship will play an important role in the realization of three important goals such as personal development, social participation, and employment.

The information acquisition competency levels of education faculty students are significantly predicted by their deep learning, strategic learning, superficial learning, self-efficacy, and grade point average. Deep learning, strategic learning, superficial learning, and grade point average positively predict the information acquisition competency levels of the education faculty students. Self-efficacy, however, predicts individuals' information acquisition competency negatively.

Polat and Odabaş (2008) emphasized the importance of information literacy in terms of achieving the objectives of lifelong learning and providing the necessary skills to individuals in the information society. Kuzu, Demir, and Canpolat (2015) have found that prospective teachers' lifelong learning tendencies are statistically high and there is a significant difference in terms of accessing to information. Özgür (2016) has found that pre-service teachers see themselves as adequate in lifelong learning and have a high level of self-efficacy in the context of information literacy; additionally, findings showed

that that there is a positive and moderate relationship between lifelong learning competency and information literacy self-efficacy of the prospective teachers. In this context, as the result of the research, the finding of a positive and meaningful relationship with the information acquisition competencies of the students of the education faculty is supported by the literature, while the result of negative self-efficacy is not supported by the literature. The fact that this conclusion of the research is not supported by the literature may be related to the different self-efficacy scales used. On the other hand, Yavuz Konakman and Yanpar Yelken (2013) stated that the prospective teachers were sufficient in the teaching and learning process and their beliefs of inadequacy in self-efficacy and experience stem from the fact that the classes they took were theoretical. As Somoncuoglu and Yıldırım (1998) stated, lifelong learning is closely related to the student's management and development of individual learning processes with awareness.

The levels of digital competencies of education faculty students are significantly predicted by their deep learning, superficial learning, grade point average, and self-efficacy. In order to become lifelong learners, it is necessary to be equipped with basic literacy in practice. Yüksel (2014) found out the benefits of the concept of lifelong education in the digital age and in employment; Bozkurt (2015) found out the opportunities offered by mass open online courses for meeting lifelong learning needs and Demiralay (2008) found that teacher candidates' perceptions of information literacy self-efficacy were high. It has been concluded that there is a significant difference according to academic achievement, gender, experience in using computers, skill level, and frequency, foreign language level, access to a computer, skill level, and intensity of using the internet, conditions of accessing to internet and using different computer applications. The concept of education which is based on access to learning, focused on different skills and student-centered is unlimited in terms of time and space, and technology as well as communication tools play an important role in creating lifelong learning environments and opportunities in the current age (Gedik & Sarpkaya Aktaş, 2016). The ability to use information and communication technologies is related to digital competencies. These competencies are related to access to information, utilization of information, storage of information as well as production and internet-based communication (Kılıç, 2015).

As a result of this research, it can be stated that the deep learning approach positively predicts digital competencies which are important, especially in terms of information production processes. On the other hand, the superficial learning approach positively predicts digital competencies which can be explained by adapting to the nature of constantly changing knowledge. Digital competency has come to the forefront through the widespread use of computers and the obtaining, storage, sharing, and evaluation of information as well as online information sharing. In the fields of communication and transportation, IT technologies have a great effect on spreading information at a low cost (Berberoğlu, 2010). While changing conditions under the influence of globalization

bring societies to make effort to adapt to continuous change, there is a need for more communication and information as well as digital competencies to follow the change (Koç, 2007). As a result of this research, the results related to the deep learning approach, superficial learning approach, and digital competencies are supported by the literature, while negative predictions of self-efficacy are not supported by the literature.

While there is a positive and significant relationship between the decision-making competencies of the faculty of education students and the deep learning, strategic learning, and self-efficacy, no significant relationship with superficial learning has been found. Accordingly, the levels of decision-making competency of the education faculty students are significantly predicted by their deep learning and strategic learning. Determination in learning can be expressed as one of the characteristics of a lifelong learning individual managing his or her own learning process (Diker Coşkun, 2009; Epaçan, 2013). In the lifelong learning process, achieving the goals that are set, overcoming the obstacles in the processes of personal development and professional progress, problem-solving, openness to the new subjects, and how much time it takes while learning a subject are related to decision-making competency (Uzunboylu and Hürsen 2011). No significant relationship has been found between self-efficacy and decision making competency which is one of the lifelong learning competencies. In the research conducted by Özcan (2011), no significant difference was found between undergraduate and graduate students in terms of decision-making competency. When the definition and characteristics of self-efficacy and the content of decision-making competencies are examined in the literature, no relationship in terms of overcoming the obstacles has been found and this may be related to the self-efficacy scale used. In this context, it can be stated that there is a need for more specific studies that deal with the relationship between self-efficacy and the decision-making competency of education faculty students. While the learning approaches of the education faculty students predicted deeply and positively in the dimension of deep learning and strategic learning approach, it was found that other variables did not contribute. In this respect, it can be stated that determination or the competency of decision making in other words is important for the continuity of learning in the learning process which never stops in life.

Suggestions

This research was carried out with the participation of the students who are studying in various departments of the faculty of education. It can be suggested that similar research should be conducted in the future with the participation of various students at different universities and faculties. The conducting of future research not only with the faculty of education but also with other faculties contributes to the generalization of the results. On the other hand, similar research can be conducted with high school students, open and distance education students as well as graduate students. Thus, both the quality of learning and the extent, as well as the direction of participation in lifelong learning, can be determined thanks to the increasing number of research. In other words, a profile can be drawn toward society learning-to-learn.

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