

Evaluation of Lifelong Learning Tendencies of Pre-service Teachers

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ABSTRACT The purpose of this paper is to evaluate teacher-candidates' tendencies on Lifelong Learning (LLL). The research group comprised 137 teacher-candidates. The "LLL Scale" was used as the data collection tool. The teacher-candidates' total LLL and all subdimensions scores were slightly above the mean score of the scale. Significant differences were determined between female and male teacher-candidates' scores for perseverance, self-regulation and curiosity. There was no significant difference between grades and the LLL subdimensions. Also, there was no statistically significant difference between grades and the whole scale. When all the subdimensions and the whole scale was examined in terms of perception of academic achievement, a significant difference occurred. There was a significant difference in LLL tendency of students, in relation to their willingness for graduate studies, when assessed with both the whole scale, and the tendency of students' motivation and perseverance subdimension scale.

INTRODUCTION

People need to continually enhance their skills and knowledge in order to deal with important problems, and obtain their vocational and professional development. But schools, colleges, or universities, cannot provide information to students about all the knowledge and skills they need to use throughout the stages of their life (Bentley 1998). Effective learning throughout one's lifespan relies on effective information processing, getting the information, and the quality of one's basic learning, knowledge and skills (Cornford 2010).

People have different education needs towards either in their areas of interests, career or cognitive development or different needs in their lifespan. Furthermore, by the developing and changing world, the concept of education should be named as "Life-long Learning (LLL)" (Ozdamly and Ozdal 2015).

Although there has been a long and distinguished background of LLL, it has been thought of as a synonym to adult education, or may be self-directed learning, but this has been an inadvertent error of the definition of the LLL term (Candy 2000). LLL term is described as the intentional learning that people engage in throughout their lives, for a personal and professional fulfillment, and to enhance the quality of their lives (Dunlap and Grabinger 2003). According to another definition of LLL, it is the participation of a

person, in any learning activity during his whole life, with personal, social or employment aims, and to develop his knowledge, skills, interests and qualifications (<http://planipolis.iiep.unesco.org> 2009).

In a rapidly changing and innovating world, one of the most critical educational purposes is to prepare people for LLL with educational opportunities, which must develop their capacities for self-direction, metacognitive awareness, and disposition towards LLL (Dunlap and Grabinger 2003). The new educational obligation is supposed to encourage people in conducting their own learning in various circumstances, throughout their lifetimes, in order to provide a variety of learning experiences with the LLL education resources (Evans and Fan 2002; Bentley 1998). These LLL education resources, can be workplace open learning, conventional campus teaching, correspondence based distance learning courses, modular flexible learning programs, and most recently, the World Wide Web or multimedia-based courseware (Evans and Fan 2002).

In recent years, there has been a great deal of knowledge regarding the recognition of LLL, which includes all formal, non-formal and informal aspects of education and training, at all ages and stages of life, and in all organizations. So schools, colleges, universities and other institutions of higher education are required to reconsider their facilities in the general domain of learning throughout life, as a part of this recognition

(Candy 2000). Titrek et al. (2013) state that a Lifelong Learning and Project Center which will establish cooperation with all government agencies and non-governmental organizations should be suggested in order to support lifelong learning.

If university students want to be a part of the new learning society, they should become lifelong learners and this should be the outcome of a learning experience. Students need to have many of characteristics that are needed for effective learning in their university life, so as to become lifelong learners (Harpe and Radloff 2000). But these characteristics and teaching the skills needed for LLL are inadequate, if students are not disposed to engaging in LLL (Dunlap and Grabinger 2003). Students also need to have other characteristics to be lifelong learners, such as self-knowledge, self-confidence, persistence and a positive view of the value of learning, and good self-management skills. Good self-management skills include the ability to be well organized, manage time and study effectively, know when and how to seek help, and how to collaborate with peers (Harpe and Radloff 2000). University students who have graduated without these important characteristics, also need to be aware of the necessity for continuous learning and retraining, as the means of LLL throughout their professional life (AC Nielsen Research Services 2000). In addition, most university students need support to help develop the characteristics of a challenging education life, with the essentials for LLL or for being effective lifelong (McInnis et al. 1995).

It is necessary for people to be corrected at all ages from their childhood in order to be able to participate in LLL processes. In this directing process, teachers undoubtedly have crucial roles. To achieve the roles related to facilitating the learning of teachers, who are implementers of education programs developed in accordance with the modern education approach, is closely related to their LLL skills. It is emphasized that with the learning characteristics of the teacher-candidates, the teachers of the future, cannot be taken separately from the society they live in, because these characteristics affect this society (Gencel 2013). If LLL is activated effectively in the future, it should be a congenial subject for teachers. Therefore, LLL endorses the significance of the teacher's role in the society, and maintains the contingency of reinvigorating their

teaching careers, and also obtains new career pathways to teachers as lifelong learners (Coolahan 2002). Therefore, teachers and teacher-candidates who are mediated to provide alteration in the society, should help people in collaborating common life, within their learning process. The number of studies, which focus on LLL tendencies of teachers and teacher-candidates in Turkey are limited (Sahin et al. 2010; Coskun and Demirel 2012; Gencel 2013; Ozdamli and Ozdal 2015; Kuzu et al. 2015; Tunca et al. 2015; Ozciftci and Cakir 2015). Therefore, it is seen as crucial to reveal the lifelong tendencies of teacher-candidates.

Objectives

The purpose of this paper is to evaluate teacher-candidates' tendencies on LLL in terms of various variables. The researchers sought answers to the following sub-questions:

1. What are the LLL tendencies of teacher candidates?
2. Is there a significant difference in the tendencies of LLL exhibited by teacher-candidates in terms of grade, gender, perception of academic achievement and willingness for graduate studies?

MATERIAL AND METHODS

In this paper, the descriptive survey model was chosen to investigate the views of the teacher-candidates about LLL. The purpose of the descriptive survey model is to determine the views of the population on a high level.

Participants

The research was conducted in the spring term of the 2014-2015 academic year, with a total of one hundred and thirty seven volunteer teacher-candidates, who studied in the Physical Education and Sports Teacher Department of Anadolu University.

Data Collection and Analysis

Data was collected by means of the "LLL Scale", which was originally developed by Coskun and Demirel (2010). The LLL tendency scale was a six-point Likert scale, with four subdimensions, which are perseverance (6 items), motivation (6 items), curiosity (9 items) and self-regula-

tion (6 items). Students were required to rate themselves between 1 and 6 points for each item ("very suitable = 1" and "not suitable=6"). The validity and reliability of the original scale was tested by Coskun and Demirel. The Cronbach's alpha internal consistency coefficient of the scale containing 27 items, was calculated as 0.89. The maximum mean scores were detected to decide the teacher-candidates' levels of LLL tendency, and standard deviation was calculated for each point. In the six-point scale, 3.5 was accepted as the average. The maximum point was $27 \times 6 = 162$, while the minimum point, was $27 \times 1 = 27$. The average point was $27 \times 3.5 = 94.5$. In this research, the consequence of repeated analysis of the reliability of the scale, was calculated as ".93". Since this value is higher than ".70", the standard, which is accepted as the adequate value for a research, it was concluded that the scale can be used in research as a whole (Kalayci 2008).

Distribution of data was analyzed using the SPSS program, and the coefficients of skewness and kurtosis were calculated to determine which statistical analysis methods would be used. When skewness and kurtosis values are ± 2 and ± 7 intervals, Chou and Bentler (1995), and Curran et al. (1996), stated that they show normal distributions. When the teacher-candidates' LLL points were analyzed in terms of kurtosis and skewness, it was discovered that the data, had a normal distribution (see to Table 2). After analyzing the distribution of data, the researchers evaluated the data to test if they were homogeneous (since Levene > 0.05). It was determined that the data was homogeneous.

This study employed statistical calculations (mean, standard deviation, t-test and ANOVA) for measuring the rate of LLL tendencies of the participants. The level of significance was set at $p = 0.05$.

RESULTS

In this section, the personal characteristics of the teacher-candidate participating in the research's findings are presented.

Personal Characteristics of Teacher-Candidates

The personal characteristics of teacher-candidates can be seen in Table 1. In the research sample 47.4 percent of the teacher-candidates

were female, and 52.6 percent were male. The educational level of the participants in relation to the class levels of students that participated in study were 32.1 percent were 1st grade, 32.1 percent were 2nd grade, 20.4 percent were 3rd grade, and 15.3 percent were 4th grade teacher-candidates. According to the perception of academic achievement, it was discovered that students had a weak achievement perception of 7.3 percent, an average achievement perception of fifty-four percent, and a good achievement perception of 38.7 percent. According to the willingness for graduate studies, it was stated that of all the students, 32.1 percent were willing, 43.8 percent were undecided, and 24.1 percent were not willing to pursue graduate education.

Table 1: Personal characteristics of teacher candidates

<i>Personal characteristics</i>	<i>N</i>	<i>%</i>
<i>Gender</i>		
Male	72	52.6
Female	65	47.4
<i>Grade Levels</i>		
1 st grade	44	32.1
2 nd grade	44	32.1
3 rd grade	28	20.4
4 th grade	21	15.3
<i>Perception of Academic Achievement</i>		
Weak	10	7.3
Middle	74	54.0
Good	53	38.7
<i>Willingness for Graduate Studies</i>		
No	33	24.1
Neither yes nor no	60	43.8
Yes	44	32.1

Teacher-Candidates' LLL Tendencies

Teacher-candidates' LLL tendencies can be seen in Table 2. The teacher-candidates' overall points varied between 62 and 154, with a mean of 118.89, which suggests that their overall LLL tendency level was slightly above the average score of the scale (94.5). According to the findings obtained, it can be said that the LLL trends of students is at a good level. Considering that the highest and lowest scores on the subdimensions of motivation ($M = 31.02$), perseverance ($M = 27.74$) and self-regulation ($M = 24.12$) were 6 and 36 respectively, it can be said that the students' LLL tendencies on these dimensions were high. This can be evaluated as a positive result in reference to LLL. Curiosity, which can be defined as the

Table 2: Teacher-candidates' lifelong learning tendencies

	<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>Skewness</i>	<i>Skewness std. error</i>	<i>Kurtosis</i>	<i>Kurtosis std. error</i>
Motivation	137	31.02	4.60	-2.197	.207	5.587	.411
Perseverance	137	27.74	5.06	-.684	.207	1.414	.411
Self-regulation	137	24.12	8.01	-.299	.207	-.954	.411
Curiosity	137	36.00	11.94	-.154	.207	-1.000	.411
Total score	137	118.89	22.88	-.122	.207	-.377	.411

necessity to obtain information, represents the willingness to obtain information, and is the motivating power that enhances learning. The highest and lowest scores in the subdimension of curiosity were 9 and 54, respectively. These scores indicated that the curiosity dimension was improved at a medium level ($M=36.00$), and these scores were evaluated as a positive result in terms of LLL. High mean scores of students' on curiosity, perseverance, motivation and self-regulation subscale, show the high level of their LLL tendencies.

Teacher-Candidates' LLL Tendencies and Gender

Teacher-candidates' LLL tendencies and gender can be seen in Table 3. Both genders' points for the total scale were above the average calculated by the scale (94.5). However, the average of female students was found to be higher than that of the male ($M=124.91$ and $M=113.46$ respectively). Also, the difference between these points was found to be statistically significant ($t=3.01$; $p=0.00$).

Table 3 also shows that the scores of female were higher in all the subdimensions of the LLL scale. Statistically significant differences were determined between the female and male's points for perseverance ($t=2.55$; $p=0.01$), self-regulation

($t=-2.28$; $p=0.02$) and curiosity ($t=-2.37$; $p=0.02$). But there was no significant difference between teacher-candidates' motivation tendency in relation to grades ($t=1.90$; $p=0.06$).

Teacher-Candidates' LLL Orientations and Grades

Teacher-candidates' LLL orientations and grades can be seen in Table 4. There was no significant difference between students' motivation ($t=1.73$; $p=0.17$), perseverance ($t=0.28$; $p=0.84$), self-regulation ($t=0.59$; $p=0.62$), and curiosity ($t=1.17$; $p=0.32$) tendencies in relation to grades. Also, there was no statistically significant difference in the total LLL tendency score of students in relation to grades, when assessed using the whole scale ($t=0.99$; $p=0.40$).

Teacher-Candidates' LLL Orientations and Perception of Academic Achievement

Teacher-candidates' LLL orientations and perception of academic achievement can be seen in Table 5. There was a significant difference in the LLL tendency of teacher-candidates in relation to the perception of academic achievement when assessed using the whole scale ($F=12.75$; $p=0.00$). Also, when all the subsections of the LLL were examined in terms of the perception of

Table 3: Lifelong learning tendencies and gender

		<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>
Motivation	Female	65	31.79	3.35	1.90	135	.06
	Male	72	30.33	5.43			
Perseverance	Female	65	28.88	4.40	2.55	135	.01
	Male	72	26.71	5.42			
Self-regulation	Female	65	25.74	8.08	-2.28	135	.02
	Male	72	22.67	7.72			
Curiosity	Female	65	38.51	12.66	-2.37	135	.02
	Male	72	33.75	10.85			
Total Score	Female	65	124.91	22.51	3.01	135	.00
	Male	72	113.46	21.97			

* $p<05$

Table 4: Lifelong learning orientations and grades

		<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>f</i>	<i>p</i>
<i>Motivation</i>	1 st class	44	31.71	4.65	1.73	.17
	2 nd class	44	30.11	5.17		
	3 rd class	28	30.36	4.29		
	4 th class	21	32.38	3.14		
<i>Perseverance</i>	1 st class	44	27.91	4.89	.28	.84
	2 nd class	44	27.30	5.57		
	3 rd class	28	27.61	4.34		
	4 th class	21	28.48	5.46		
<i>Self-regulation</i>	1 st class	44	25.41	6.91	.59	.62
	2 nd class	44	23.21	8.95		
	3 rd class	28	23.79	8.12		
	4 th class	21	23.81	8.16		
<i>Curiosity</i>	1 st class	44	38.66	12.23	1.17	.32
	2 nd class	44	35.23	12.76		
	3 rd class	28	34.93	10.28		
	4 th class	21	33.52	11.43		
<i>Total Score</i>	1 st class	44	123.68	22.17	.99	.40
	2 nd class	44	115.84	24.60		
	3 rd class	28	116.68	22.21		
	4 th class	21	118.19	21.39		

Table 5: Lifelong learning orientations and perception of academic achievement

		<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>f</i>	<i>p</i>
<i>Motivation</i>	Weak	10	25.80	7.67	14.11	.00
	Middle	74	30.35	4.53		
	Good	53	32.94	2.60		
<i>Perseverance</i>	Weak	10	21.10	7.43	12.16	.00
	Middle	74	27.68	4.82		
	Good	53	29.08	3.82		
<i>Self-regulation</i>	Weak	10	18.00	5.68	6.40	.00
	Middle	74	23.19	8.10		
	Good	53	26.58	7.45		
<i>Curiosity</i>	Weak	10	28.40	14.80	4.54	.01
	Middle	74	34.76	11.34		
	Good	53	39.19	11.44		
<i>Total Score</i>	Weak	10	93.30	23.97	12.75	.00
	Middle	74	115.97	21.26		
	Good	53	127.79	20.41		

*p<05

academic achievement, a significant difference occurred for all subdimensions ($p=0.00$, $p=0.00$, $p=0.00$, $p=0.01$).

Teacher-Candidates' LLL Orientations and Willingness to Pursue Graduate Studies

Teacher-candidates' LLL orientations and willingness for graduate studies can be seen in Table 6. There was no statistically significant difference between students' self-regulation and curiosity tendencies in relation to willingness to pursue graduate studies ($p=0.23$, $p=0.23$). However, there was a significant difference in LLL

tendency of students in relation to willingness for graduate studies when assessed using the whole scale ($F=3.51$; $p=0.03$). Furthermore, there was a significant difference in the tendencies of students' perseverance and motivation in relation to the perception of academic achievement ($p=0.02$, $p=0.02$).

DISCUSSION

This paper aimed to identify the teacher-candidates' tendencies to LLL, and to investigate the relationships between this tendency and various variables, such as grade, gender, per-

Table 6: Lifelong learning orientations and willingness for graduate studies

		<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>f</i>	<i>p</i>
<i>Motivation</i>	No	33	29.39	5.86	3.91	.02
	Neither yes nor no	60	30.98	4.44		
	Yes	44	32.30	3.28		
<i>Perseverance</i>	No	33	26.52	6.52	3.88	.02
	Neither yes nor no	60	27.18	4.74		
	Yes	44	29.41	3.77		
<i>Self-regulation</i>	No	33	23.00	8.24	1.50	.23
	Neither yes nor no	60	23.50	8.24		
	Yes	44	25.82	7.40		
<i>Curiosity</i>	No	33	34.70	12.82	1.50	.23
	Neither yes nor no	60	34.85	11.36		
	Yes	44	38.57	11.90		
<i>Total Score</i>	No	33	113.61	26.89	3.51	.03
	Neither yes nor no	60	116.52	20.14		
	Yes	44	126.09	21.88		

* $p < .05$

ception of academic achievement, income level of the family and willingness for graduate studies. The results were as follows.

Results of the research showed that teacher-candidates' LLL tendencies were high. The higher scores for motivation, self-regulation, perseverance and curiosity can be evaluated as cues of the teacher-candidates' preparedness to gain active roles in becoming lifelong learners. If perseverance, motivation, self-regulation and curiosity are thought as the driving forces for any kind of learning, it can be observed that the students relatively feel an excitement for LLL. Also, the high scores of all subdimensions indicate that their skills of evaluating their own level of knowledge, organizing learning, locating and using information of sources, may not be so strong. Other researchers have also noted the varying degrees of means in the subdimensions and whole scale that emerged in this study. One of these studies was conducted in 2012 by Chen et al. In Chen et al.'s study, it was discovered that the participants in their study were more skilled in application of skills and knowledge areas. Another study was carried out in 2013 by Gencil. According to this study, prospective teachers' perceptions towards their LLL competencies were sufficient. Similarly, in the research of Ozciftci and Cakir (2015), it was observed that the teachers' LLL tendencies were high. In Kuzu et al.'s (2015) study, it was determined that the teacher-candidates' LLL tendencies scale scores is above the scale mean score. One of these studies was conducted in 2015 by Ayra and Kösterelioglu. Ayra and Kösterelioglu discovered that the teachers' LLL tendencies scale scores is

above the scale mean score. The findings of this study, support the findings of the present study.

The findings indicating that the LLL tendencies of teacher-candidates are good, and that the levels of their tendencies are high on all subscales, are remarkable. Teacher-candidates' having high motivation, curiosity, and persistence for learning, are important for those who are in the learning and teaching processes, because at any time, they can carry out their profession in the future, and display effective teaching skills. In the context of these results it can be said that the students who participated in this research have the tendency of developing themselves, updating their knowledge, and keeping up with this age in which the concept of change is processed continuously.

According to the results of the paper, LLL perceptions of female teacher-candidates are more positive than the male ones. When the researchers examined the students' LLL in relation to their gender, a significant difference was observed. In addition, when the researchers considered students' tendencies of perseverance, self-regulation and curiosity in relation to gender in the same case, significant differences were detected. However, no significant difference was detected between the students' motivation tendencies in relation to gender. This result is consistent with the results of other similar studies in the literature (Jenkins 2004; Coskun 2009; Demirel and Akkoyunlu 2010; Sahin et al. 2010; Coskun and Demirel 2012; Gencil 2013). In contrast to researchers' results, Kuzu et al. (2015) and Tunca et al. (2015) determined that there is no statistically significance difference between

pre-service teachers' LLL tendencies according to gender.

Also, according to the results of the study carried out by Bimrose et al. (2003), while women prefer to participate in educational activities for personal development, men prefer to participate in educational activities that contribute to their career. With the facts that women cannot benefit from the education system adequately, and cannot benefit from the contributions of education to educated women in their lives, it seems possible that the motivation levels of women for continuous learning and development, will be high.

According to the results of the study, when the scores of teacher-candidates' according to their grades are considered, it is seen that the mean scores of the 4th grade students on motivation and perseverance subdimensions are higher than the students of other grades. However, it was observed that the mean scores of 1st grade students on the total of LLL tendency scale and the subscales of self-regulation and curiosity subdimensions of the scale were higher than the others. When these differences were evaluated to see if they were significant or not, it was found that they were statistically significant. In contrast to researchers' results, Tunca et al. (2015) determined that there is a statistically significance difference between LLL tendencies of teacher candidates according to grades.

Lifelong learning necessitates the skills, such as collecting, evaluating and using the data appropriate with the goals, while solving a problem or making a decision (Polat 2005). Coskun (2009) states that when these mentioned skills, which students generally do not have, and the problems of university education in Turkey are evaluated together, it is seen that students' perceptions on learning focuses on just getting a profession inevitably. This statement seems to support the findings of this study. It can be interpreted that LLL tendencies and characteristics of students are not the results of the university, but their personal characteristics. Any change in students' LLL characteristics was not detected as a result of the four-year academic education. Similar studies carried out in Turkey support this finding (Atacanli 2007).

When the mean scores of teacher-candidates on the LLL scale in relation to their academic achievement were evaluated, it was stated that the students with "good" academic achievement had higher scores. When the researchers eval-

uated it to know if this difference was significant or not, it was found that the students' LLL tendencies were significant in relation to their perceived academic achievement levels. This finding shows that students who have characteristics affecting academic achievement positively, such as learning skills, studying strategies, may also have LLL characteristics. In conclusion, it can be said that positive academic achievement perceptions are related to having LLL characteristics.

When the mean scores of students on the LLL scale in relation to their willingness for graduate studies were evaluated, it was found that the students willing to take graduate education had higher scores. When the researchers evaluated it to find out whether this difference was significant or not, it was found that there were significant differences between teacher candidates' willingness for graduate studies and the total of LLL scale, and its motivation and perseverance subdimensions. However, it was stated that there were no significant differences, between the teacher-candidates' willingness for graduate studies, and self-regulation and curiosity subdimensions of the scale. Graduate studies are carried out for personal development and as a result of personal choice, beyond getting a profession.

CONCLUSION

In this research, it is observed that the mean points, the teacher-candidates got from the "LLL Tendency Scale" are higher than the scale average points, and therefore, it has been determined that the LLL tendencies of teacher-candidates are high. When the profile of teacher-candidates' LLL tendencies are portrayed, it can be said that their LLL tendencies are high, and their motivation, perseverance, self-regulation and curiosity for learning are sufficient.

Also in this study, it is found that the LLL tendencies of the female teacher-candidates are more positive than the male ones. When the researchers examined the teacher-candidates' LLL tendencies according to their gender, a significant difference was observed. In addition, when considered the teacher-candidates' tendencies of perseverance, self-regulation and curiosity in relation to gender in the same case, significant differences were detected, but no significant difference was detected between teacher-candi-

dates' motivation tendencies, in relation to gender.

When the scores of teacher-candidates' according to their grades are considered, there is no significant difference between teacher-candidates', the whole LLL tendency, motivation, perseverance, self-regulation, and curiosity tendencies, in relation to grades. When the average scores of teacher-candidates on LLL scale according to their academic achievement were evaluated, it was found that the teacher-candidates with "good" academic achievement had higher scores and the difference was significant. Moreover in this research, it was found that there are significant differences between teacher-candidates' willingness for graduate studies, and the total of LLL scale and its motivation and perseverance subdimensions. However, it is found that there are no significant differences between curiosity and self-regulation subdimensions of the scale in relation to teacher-candidates' willingness for graduate studies.

RECOMMENDATIONS

The universities should emphasize on educational programs that help develop their students' LLL behaviors, at bachelor, master and doctorate levels and this should be another education aim and graduate outcome of universities. Furthermore, universities should organize seminars about LLL education for their graduated teacher-candidates, and teachers in order to continue the development in their carrier.

NOTE

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