Full Length Research Paper

Key competences for lifelong learning: The case of prospective teachers

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This study aims to determine the level of prospective teachers in terms of lifelong learning key competences. Lifelong learning is an extensive educational approach receiving much attention not only by educational politics of European Union but also by the rest of the world. Lifelong learning competence requires an active and constant usage of knowledge. The items of "The Scale of Key Competences for Lifelong Learning" (SKCLLL) have been developed by the researchers based on the literature and the views of educational experts. Twenty-three items were defined in the scale. The scale has been applied to 415 prospective teachers attending to the final grade of the Faculty of Education of Selcuk University in Konya, Turkey. Based on the analysis carried out, it has been found that gender is not an effective factor in terms of the prospective teachers' lifelong learning key competences. No significant difference has been found in terms of the sub-branches. The field where prospective teachers feel that they are the least competent is communication in native language.

Key words: Lifelong learning, teacher training, teacher competence, prospective teacher.

INTRODUCTION

A rapid change has been experienced in this age in the field of science and technology. Such a change has brought about an incredible increase in knowledge and this increase has caused the accumulated knowledge to become out-of-date in a short period of 3 – 5 years. The communities and individuals being able to access to knowledge, being able to adapt this knowledge to his own structure, being able to add new ones to this knowledge and share it are regarded as strong ones. Therefore, human sense that is required for current societies has changed and differentiated (SCANS, 1991; TUSIAD, 1999). Innovations in science and technology have been basic factors determining the human force profile of current societies. In other words, societies need individuals "improving oneself" and having the skills of "lifelong learning" (Atkin, 2000; Baptiste, 1999; Bagnall, 2006).

In parallel with the developments in the world and in our country, our education system is also developing and the efforts to make it nationwide are carried on so fast. Even though it is claimed that the targets have been reached, depending on the decisions taken and politics determined in planned periods, necessary arrangements have been worked out in the system of education as well, in order to keep up with the age and not to stay away from this process. Lifelong learning has become one of the major components of educational arrangements (DPT, 2001). Current societies, where teaching is not solely limited to educational institutions and lifelong learning is compulsory, have to investigate the needs of individuals and societies repeatedly. In this context, there appears a need for individuals having lifelong learning competences. Unlike people's confinement, their education and teaching period to a certain period of their life, lifelong learning has turned into a process to be carried out at home, at work, at café etc. and throughout all life (Soran, Akkoyunlu, Kavak, 2006).

Used as a synonym of the terms like adult education and constant education, lifelong education was defined by Candy (1994:2) as a process improving and strengthening the knowledge, values, skills and senses that individuals obtain throughout their lives and a process of putting all

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these into practice during the whole life cycle. Lifelong learning was worded by Paul Lengrand in 1970 for the first time with a paper named "Introduction to lifelong learning" presented at the conference of UNESCO. Later on, a report titled "Today and Tomorrow of World Education" indicating the necessity of lifelong learning by International committee of improving world education was released in 1972. It was concluded in the report that education should be an activity to be carried on lifelong through formal and informal ways in order to make individuals ready for a society that has not existed yet.

EU commission has a study titled "Toward a Learning Community" released in 1995. Also, the year 1996 was declared by the decision of the commission as the year of European lifelong learning. One of the basic components was regarded as lifelong learning in the European Council at a special meeting on 23 - 24 March 2000 in Lisbon to agree a new strategic goal for the Union in order to strengthen employment, economic reform and social cohesion as part of a knowledge-based economy. In this context, lifelong learning was defined in the Feira declaration prepared within this perspective as: "the whole activities taken over from the beginning of the life towards the end of it in order to improve knowledge, skills and competence within the perspective related to individual citizenship social and/or employment" (European Parliament, 2000; Commission of the European Communities, 2001; Polat, Odabaş, 2008).

A common declaration known as "Bologna declaration" was released with the title "Joint declaration of the European Ministers of Education" as 29 Ministers of Education came together on 19 June, 1999 at the University of Bologna. In the conference held in Prague in 2001, the number of the states signing the same declaration was 33, while it outnumbered 40 at "Berlin Summit" in 2003. The basic aim released in the declaration, signed also by Turkey too, was to create a "European Higher Education Area" consistent in it, completing each other and having a high power of competition up to the year 2010. It is clear that lifelong learning approach was adopted as a common discourse of education in Europe. Having similar ideas, Charlier and Croché (2005:7) defined lifelong learning as "a vital step to obtain a unity at education in Europe". Lifelong learning that goes back the ideas of Czech teacher Commenius (Wain, 1989: 152) is not a recent concept. What's more, Griffin (1999: 152) stated that this concept existed even before schooling. According to Aspin and Chapman (2000: 2), although being used in various meanings and having popularity, the concept of lifelong learning has not been used so widely and current practices have not had a remarkable result yet. The concept of Dehmel (2006: 49) has been regarded as an "up to date slogan in the field of education politics of European Union". For Colardyn (2004: 546), the concept of lifelong learning, which is considered to be vital for European community, has mostly been used as "lifelong

education", "advanced education", "continuous education", "adult education", "liberal education", "constant vocational education" and "vocational education" (Aspin and Chapman, 2000; Kogan, 2000: 344; Rausch, 2003: 518; Titmus, 1999: 344; Wain, 1989; Beycioğlu, Konan, 2008).

With the activation of such motivation powers as the fact that European Union, which defined lifelong learning as "all the learning activities taken over in all parts of life within the perspective related to personal, citizenship and social affair in order to improve knowledge, ability and competence (CEC, 2001a: 9) has turned into a common market, globalization, ever-changing technology, communication technologies, the concept has become significant both in EU and in our country since 1990s and in the process of membership. In particular, the concept which was put into a central position at the document issued by EU commission in 1994 was regarded as a "strategic idea" to be used for new social, technological and economical changes (Dehmel, 2006). The year 1996 was declared as the year of European year of lifelong learning and the purposes, principles and strategies of lifelong learning were determined with the regulation of the commission (Akbaş and Özdemir, 2002).

It was pointed out in "London Declaration" accepted in the Bologna Conference of Ministers held on 17 – 18 May, 2007 that national competence frameworks consistent with "AYA Qualifications Framework (WF – EHEA)" should also be consistent with "European Qualifications Framework Lifelong Learning (EQF/LLL)" of European Union as well. In addition, in the report with a date of May, 2007 of Qualifications framework working group, dated May 2007, formed by Bologna Monitoring Group, this expression was repeated and it was stressed that European Higher Education of QFEHEA should be taken into consideration in the introduction of it in global respect, in order not to cause an ambiguity that would be caused by the existence of two separate qualification frameworks in Europe (Board of Higher Education (YOK, 2007).

During the lifetime of an individual, there is a need for something behind just literacy and basic knowledge of accountancy, and obligatory documents of schools. On the one hand, one needs new skills beyond the ones in the issues of computer, foreign language, entrepreneurship, on the other hand, individuals need formal school conditions enabling them to function in social life, business and modern information societies. Turkey should carry out a test study of IALS as much as possible and develop and apply a basic skills/key perfection using the study (State Planning Department (DPT), 2007).

Key competences

Key competences were mentioned and defined by working

Group B within the frame work of implementation of "Education and Training 2010" work programme as a white paper "Key competences for lifelong learning: A European reference framework" in November 2004. According to this paper, key competences represent a transferable, multifunctional package of knowledge, skills and attitudes that all individuals need for personal fulfillment and development, inclusion and employment. These should have been developed by the end of compulsory schooling or training, and should act as a foundation for further learning as part of lifelong learning. The paper displayed eight domains of key competences and gave the definition of each as follows:

1. Communication in the mother tongue: Communication in the mother tongue is the ability to express and interpret thoughts, feelings and facts in both oral and written form (listening, speaking, reading and writing), and to interact linguistically in an appropriate way in the full range of societal and cultural contexts-education and training, work, home and leisure (Candy, 2003).
2. Communication in foreign languages: Communication in foreign languages broadly shares the main skill dimensions of communication in the mother tongue: it is based on the ability to understand, express and interpret thoughts, feelings and facts in both oral and written form (listening, speaking, reading and writing) in an appropriate range of societal contexts- work, home, leisure, education and training-according to one's wants or needs (Brine, 2006). Communication in foreign languages also calls for skills such as mediation and intercultural understanding (Bruce, 1997). An individual's level of proficiency will vary between the four dimensions, different languages and according to their background, environment and needs/interests.
3. Mathematical competence and basic competences in science and technology: Mathematical competence is the ability to use addition, subtraction, multiplication, division and ratios in mental and written computation to solve a range of problems in everyday situations. The emphasis is on process and activity, as well as knowledge. Mathematical competence involves - to different degrees - the ability and willingness to use mathematical modes of thought (logical and spatial thinking) and presentation (formulas, models, constructs, graphs/charts). Scientific competence refers to the ability and willingness to use the body of knowledge and methodology employed to explain the natural world, in order to identify questions and to draw evidence-based conclusions. Competence in technology is viewed as the application of that knowledge and methodology in response to perceived human wants or needs. Both areas of this competence involve an understanding of the changes caused by human activity and responsibility as an individual citizen.
4. Digital competence: Digital competence involves the confident and critical use of information society technology (IST) for work, leisure and communication. It

is underpinned by basic skills in ICT: the use of computers to retrieve, assess, store, produce, present and Exchange information, and to communicate and partici-pate in collaborative networks via the Internet.
5. Learning to learn: 'Learning to learn' is the ability to pursue and persist in learning. Individuals should be able to organize their own learning, including through effective management of time and information, both individually and in groups. Competence includes awareness of one's learning process and needs, identifying available opportunities, and the ability to handle obstacles in order to learn successfully. It means gaining, processing and assimilating new knowledge and skills as well as seeking and making use of guidance. Learning to learn engages learners to build on prior learning and life experiences in order to use and apply knowledge and skills in a variety of contexts-at home, at work, in education and training (Rogers, 2006a). Motivation and confidence are crucial to an individual's competence.
6. Interpersonal, intercultural and social competences, civic competence: These competences cover all forms of behaviour that equip individuals to participate in an effective and constructive way in social and working life, and particularly in increasingly diverse societies, and to resolve conflict where necessary (Rogers, 2006b). Civic competence equips individuals to fully participate in civic life, based on knowledge of social and political concepts and structures and a commitment to active and democratic participation.
7. Entrepreneurship: Entrepreneurship refers to an individual's ability to turn ideas into action. It includes creativity, innovation and risk taking, as well as the ability to plan and manage projects in order to achieve objectives. This supports everyone in day to day life at home and in society, employees in being aware of the context of their work and being able to seize oppor-tunities, and is a foundation for more specific skills and knowledge needed by entrepreneurs establishing social or commercial activity.
8. Cultural expression: Appreciation of the importance of the creative expression of ideas, experiences and emo-tions in a range of media, including music, performing arts, literature, and the visual arts (Wain, 2000, Walters and Walters, 2001).

The core of this study is to display the key competences of prospective teachers and the level of each key competence. The study also covers suggestions to improve the level of these key competences towards the prospective teachers.

The aim of the study

The purpose of the study is to determine the levels and views of the views of prospective teachers concerning lifelong learning key competences and develop some

suggestions based on the results obtained. Depending on this general purpose, the following sub-problems were handled:

1. What are the views of prospective teachers concerning lifelong learning key competences?
2. Is there any difference at the views of prospective teachers concerning lifelong learning key competences in terms of;

(a) Gender
(b) The branches in relation with each other

METHOD

Population and sampling

The current study aiming at determining lifelong learning competence of the 4th grade prospective teachers studying at Konya Selcuk University, Faculty of Education (at the end of the spring term of 2008 - 2009) depending on the views of related groups is a descriptive study with a purpose of determining the present case. Using a scale and analyzing documents are the combined techniques. The population of the study consists of 1080 prospective teachers attending to the 4th grade of Selcuk University, Faculty of Education in Konya, Turkey. When a researcher is able to (a) know the population from which he is going to decide the standard deviation of the related feature as much as possible, (b) compare the level of misconception that will be ignored and (c) decide on the level of reliability giving the possibility of keeping it within the range of estimated misconception, he can determine the size of sampling numerically (Cohen et al., 2000). As the number of components in the population is known (Krejcie and Morgan, 1970), the sampling of prospective teachers were determined as 415. The sampling was determined through the type of stratified sampling. Stratified sampling is a sampling where the sub-groups in the sampling are guaranteed to be represented. Therefore, the population is first divided into two or more strata, sub-population and sub-group. Stratified sampling is mostly planned with practical reasons. Both the representation of each sub-population is guaranteed and the cost is reduced. While the sampling is taken, each stratum is sampled as a separate, simple and unbiased sampling (Balcı, 1995).

Data collection

The source at the literature of the field was examined and combined depending on the purpose in order to make a basis for the problem of the research and shed a light for future. So as to find an answer for the sub-problems of the study, explanatory document of key competence for lifelong learning which was determined in 2005 by EU Commission upon the recommendation of European Parliament and Commission was taken as a basis and a scale was developed by the researcher in order to collect data. An "expert view" was applied in terms of the suitability of the items, the latest form of the scale was decided and it was applied to 415 prospective teachers in 13 branches (Mathematics 37, Chemistry 20, Biology 58, Computer 28, German 20, History 70, Turkish Language and Literature 26, Geography 32, Social Sciences 21, Turkish 25, English 29 and Guidance and Psychological Counseling 21) as 23 items.

Data acquisition tool

The scale of key competence for lifelong learning, developed by the authors based on the EU documents and the target related with lifelong learning was used as the data acquisition tool. The preliminary scale developed was improved with the help of related literature and the views of the experts. The scale of key competence for lifelong learning in the type of 5-point traditional Likert scale consists of eight sub-dimensions and 23 items.

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Validity and reliability of the scale

In order to determine the extent of proper sampling to find out the validity and reliability of the scale, the related literature was skimmed and it was found out that literature gives different numbers for preliminary sampling application. For example, for item-respondent rate, Cattell (1978) gives 3 - 6, Gorsuch (1983) gives at least 5, and Everitt (1975) gives 10 subjects (cited in McCallum et al., 1999). For Jeong (2004), the number of subjects should be more than 5. Considering these numbers, the number of prospective teachers involved in the preliminary study, from the Educational Faculty of Ahmet Keleşoğlu, Selcuk University, was 108. The prospective teachers involved in the preliminary study were left out of future stages of the research.

The validity of the scale was determined via factor analysis. KMO and Barlett test were used to see if the scale is proper for factor analysis. According to Jeong'a (2004), the result of KMO test should be "0.50" and above while, for Barlett, the result of sphericity tests should be statistically significant. In this study, the result of KMO test is "0.86" and the result of sphericity tests is (P<0.01),

which is statistically significant. Therefore, the scale can be exposed to factor analysis. The minimum load value for each item is "0.50". In the first factor analysis study, it was found out that some items of the scale, consisting of 27 item, have similar load values in more than one factor and thus 4 items were removed. As a result, the scale had 23 items. As a result of the factor analysis, the scale had 8 factors.

Büyüköztürk (2002) states that the explanatory variance of one factor scales should be 30% and it should be more than that with the multiple-factor variance. Thus, the first factor of the scale had 4 (1-2-3-4) items, the second factor had 4 (5-6-7-8) items, the third factor had 3 (9-10-11) items, the forth factor had 2 (12-13) factors, the fifth factor had 2 (14-15) items, the sixth factor had 3 (16-17-18) items, the seventh factor had 4 (19-20-21-22) items and the eighth factor had 1 (23) item. The scale was exposed to Cronbach's alpha statistical test to find out the reliability. According to the statistical result, the Cronbach's alpha value for the whole scale is "0.75". For Tezbaşaran (1997), the reliable coefficient for a Likert type scale should be as close as possible to 1. This implies the reliability of the scale high.

Analysis of the data

The data obtained about the sub-problems of this study was analyzed using one-way analysis of variance (*one-way ANOVA*), independent-samples t-Test and Scheffe test. The evaluation was based on 415 scales received from the prospective teachers. The items in the scale had choices and scores for each choise like that: absolutely agree: 5, agree: 4, undecided: 3, disagree: 2, and totally disagree: 1. The minimum score should be 14 and the maximum score should be 70. The higher the score is, the more positive the attitudes of the participants towards the scale and vice versa.

RESULTS AND DISCUSSION

In this part, the scale prepared to solve the problem of the research and the findings obtained as a result of statistical analysis of the data gathered, also the comments concerning these findings were given according to the order of sub-problems.

The views of pre-school teachers concerning lifelong learning competences were given below. Concerning the descriptive statistical results of lifelong learning competence of pre-school teachers given in Table 1, it was found that the participants had the idea of that they were competent at a very good level at the sub-dimension of communicative competence at native language ($\overline{x}$ = 4.39), while they were competent at rather low level at the sub-dimension of communication at a foreign language/s ($\overline{x}$ =2.14), they were competent at a good level at the sub-dimension of mathematical competence at science and technology ($\overline{x}$ =3.78), they were competent at a good level at the sub-dimension of digital competence ($\overline{x}$ =3.71), they were competent at a very good level at the sub-dimension of the competence of learning to learn ($\overline{x}$ =4.09), they were competent at a good level at the sub-dimension of the competence of social and citizenship awareness ($\overline{x}$ =4.006), They were competent at a good level at the sub-dimension of the competence of the sense of initiative and entrepreneur-

ship ($\overline{x}$ =4.03), they were competent at a good level at the sub-dimension of the competence of cultural awareness and expression ($\overline{x}$ =3.68). It is likely to say that all the prospective teachers but those of foreign language did not find themselves sufficient in terms of the competence of foreign language.

The results of t-Test of the variable of gender concerning total scores of lifelong learning competence of pre-service teachers

As given in Table 2, no significant difference was found between the total scores of lifelong learning competence of both male and female pre-service teachers. The comparison and the difference between the groups at all dimensions concerning lifelong competence of pre-service teachers were given in Table 3.

Total score variance analysis of lifelong learning key competence of pre-service teachers depending on branches

As shown in Table 3, a significant difference was found at lifelong learning key competence of pre-service teachers. The difference was in each branch. The comparison and the differences between the groups concerning lifelong learning competence of pre-service teachers were given in Table 4.

Total score results of multi-comparison between groups concerning lifelong learning competence of prospective teachers (ANOVA)

As given in Table 4, a significant difference was found in the views between the groups at F value at the level of 0.05 of all dimensions. Tukey technique was benefited as a multi-compare technique to determine between which groups was a difference. A significant difference was found between the competence of the pre-service teachers of English and the competence of the pre-service teachers of other branches at all dimensions concerning their lifelong learning competence [F(12-414)= 5,56; p<0,05]. It was also found that the means of the pre-service teachers of English were higher than those of the pre-service teachers of other branches.

The results of t-test of the variable of gender concerning sub-dimensions of lifelong learning competence of prospective teachers

As given in Table 5, a significant difference was found at the sub-dimensions of mathematical and basic competence at communication at a foreign language/s, science and technology concerning the gender of pre-service teachers. No significant difference was found between

Table 1. The descriptive statistical values concerning lifelong learning competence were given below (N=415).

Items		$\overline{x}$	S
Communicative competence at native language			
1	I can express and comment concepts, ideas, feelings, facts and views using my native language.	4.24	0.82
2	I can read and perceive concepts, ideas, feelings, facts and views using my native language.	4.53	0.75
3	I can write and comment concepts, ideas, feelings, facts and views using my native language by writing.	4.31	0.84
4	I can listen and perceive concepts, ideas, feelings, facts and views using my native language.	4.46	0.75
Communicative competence at a foreign language/s			
5	I can express and comment concepts, ideas, feelings, facts and views in a foreign language/s.	2.14	1.14
6	I can read and perceive concepts, ideas, feelings, facts and views in a foreign language/s.	2.10	1.14
7	I can write and comment concepts, ideas, feelings, facts and views in a foreign language/s by writing.	2.34	1.20
8	I can listen and perceive concepts, ideas, feelings, facts and views in a foreign language/s.	2.08	1.08
Mathematical basis competence at science and technology			
9	I can develop and apply mathematical thinking in order to solve various problems I face in daily life	3.68	0.96
10	I am willing to use logical and special ways and I am able to do it	4.01	0.87
11	I am willing to use formulas, models, designs and tables and I am able to do it.	3.65	1.06
Digital competence			
12	I am willing to use Knowledge Community Technology (KCT) for business and free time activities and I am able to do it.	3.44	1.08
13	I am willing to communicate through the Internet in order to store information, recall, restore, evaluate it and use information mutually and I am able to do it.	3.99	0.96
The competence of learning to learn			
14	I am willing to organize my own learning process both individually and in a group through effective time and information administration and I am able to do it.	4.02	0.87
15	I am aware of my learning process and needs and have the ability to over the barriers to learn in successful way and I am able to determine current opportunities.	4.17	0.86
The competence of social citizenship awareness			
16	I am able to join social life and business in an effective and positive way and I am able to do it.	4.16	0.85
17	I am willing to join into the communities getting various and solve the conflicts when necessary and I am able to do it.	3.79	0.90
18	I am willing for active and democratic participation and I am able to do it.	4.07	0.91
The competence of the sense of initiative and entrepreneurship			
19	I am willing to turn my ideas into action and I am able to do it.	4.01	0.83
20	I can succeed any task by using the features of creativity, innovation and taking risk.	4.12	0.82
21	I am willing to plan projects and administrate them to realize my aims and I am able to do it.	3.97	0.85
22	I am willing to know the opportunities at personal, vocational and/or business activities and I am able to do it.	4.02	0.86
The competence of cultural awareness and expression			
23	I know the importance of expressing my ideas, experience and emotions in various fields such as music, painting, literature and visual arts in a creative way and I am able to do it.	3.68	1.07
	Total (N=415)	82.76	11.04

Table 2. The results of t-test of the Variable of gender concerning total scores of lifelong learning competence of pre-service teachers.

Gender	N	Mean	Std. deviation	t	Sig. (p)
Male	166	84.41	10.91		
Female	249	85.57	11.45	1.027	.31
Total	415				

p>.05

Table 3. Total score variance analysis of lifelong learning key competence of prospective teachers depending on branches (ANOVA)

Groups	N	Mean	Std. deviation	F	Sig. (p)
Mathematics	37	88.00	10.63		
Physics	28	83.97	9.32		
Chemistry	20	88.85	10.70		
Biology	58	81.60	12.47		
Computer	28	85.17	8.31		
English	29	97.34	8.22		
German	20	90.55	8.70	5.506	0.000*
History	70	82.34	10.09		
Literature	26	83.38	10.16		
Geography	32	81.97	11.52		
Social Sciences	21	82.71	8.36		
Turkish	25	83.64	13.48		
Psych. Couns. Guidance	21	85.66	11.78		
Total	415	85.10	11.24		

*p<.05.

Table 4. Total score results of multi-comparison between groups concerning lifelong learning competence of prospective teachers (ANOVA)

The Source variance total score	Total of squares	Mean of squares	Std. deviation	F	Sig. (p)
Total Score Between Groups	7381.936	615.161	12		
Total Score In Groups	44914.609	111.728	402	5.56*	0.000*
Total	52296.545		414		

*p< .05

males and females at other the sub-dimension of competence concerning gender.

Tukey comparison results concerning sub-competence of communication at native language of pre-service teachers at lifelong learning

Depending on Table 6, a significant difference was found between the branches of English and chemistry, biology, geography and between the branches of biology and Germany concerning the competence of communication at native language at the lifelong learning of pre-service teachers (p<0.05).

Tukey comparison results concerning sub-competence of communication at a foreign language/s of pre-service teachers at lifelong learning

As shown in Table 7, concerning the competence of lifelong learning at communication at a foreign language/s

Table 5. The results of t-Test of the variable of gender concerning sub-dimensions of lifelong learning competence of pre-service teachers

Dimensions	Gender	N	Mean	Std. Deviation	T	Sig. (p)
Communication at Native Language	Male	166	17.51	2.44	0.238	0.812
	Female	249	17.57	2.57	0.241	0.810
Communication at a Foreign Language/s	Male	166	7.81	3.65	3.544	0.000*
	Female	249	9.27	4.42	3.683	0.000*
Mathematical and Basic Competence at Science and Technology	Male	166	11.85	2.03	3.568	0.000*
	Female	249	11.01	2.53	3.725	0.000*
Digital Competence	Male	166	7.70	1.80	2.532	0.012*
	Female	249	7.27	1.69	2.498	0.013*
Competence of Learning to Learn	Male	166	8.03	1.55	1.921	0.055
	Female	249	8.32	1.52	1.915	0.056
Competence of Social and Citizenship Awareness	Male	166	11.97	2.20	0.506	0.613
	Female	249	12.08	2.16	0.504	0.614
Competence of the Sense of Initiative and Entrepreneurship	Male	166	15.95	2.56	1.243	0.215
	Female	249	16.28	2.73	1.258	0.209
Competence of Cultural Awareness Expression	Male	166	3.58	1.09	1.610	0.108
	Female	249	3.75	1.05	1.600	0.111

*$p < .05$

Table 6. Tukey Comparison Results Concerning Sub-competence of Communication at Native Language of Prospective Teachers at Lifelong Learning

Dimensions	Branch		Mean	Sig. (p)
Communication at Native Language	Chemistry	English	2.45	0.038*
	Biology	English	2.29	0.004*
	German	Biology	2.19	0.038*
	Geography	English	2.23	0.027*

*$p < .05$

language/s of pre-service teachers, a significant difference of   was found between the branch of mathematics and English, history, literature, geography, social sciences; between the branch of physics and English, German, history; between the branch of chemistry and biology, English, history, literature, geography, social sciences; between the branch of biology and chemistry, English, German, history; between the branch of computer and English, history, geography social sciences; between the branch of English and German, history, literature, geography social sciences, Turkish, psychological counseling and guidance; between the branch of German and history, literature, geography, social sciences, Turkish; between the branch of history and psychological counseling and guidance at their views depending on the results of variance analysis at the level of F value 0.05. Tukey test was applied to find out in favor of which group the significant difference occurred concerning key competence. A significant different was found between key competence of communication at a foreign language/s.

Tukey comparison results concerning mathematical and basic competence at science and technology of pre-service teachers at lifelong learning

As was given in Table 8, a significant difference was found between the branches of Mathematics and German, literature, geography and social sciences concerning the variance analysis of their views at F value at the level of 0.05 of all dimensions regarding mathematical and basic competence of science and technology of pre-school teachers at lifelong learning. Tukey test was applied to find out in favour of which group the significant difference occurred concerning key competence.

It was found that there was no significant difference between mathematical and basic competence at science and technology.

Table 7. Tukey comparison results concerning sub-competence of communication at a foreign language/s of pre-service teachers at lifelong learning

Dimension	Branch		Mean	Sig.
		English	5.67	0.000*
		History	4.30	0.000*
	Mathematics	Literature	2.96	0.026*
		Geography	3.91	0.000*
		Social Sciences	4.24	0.000*
		English	7.25	0.000*
	Physics	Germany	3.64	0.010*
		History	2.72	0.014*
		Biology	3.13	0.016*
		English	4.61	0.000*
		History	5.36	0.000*
	Chemistry	Literature	4.02	0.003*
		Geography	4.97	0.000*
		Social Sciences	5.30	0.000*
		Chemistry	3.13	0.016*
	Biology	English	7.74	0.000*
		Germany	4.13	0.000*
Communication at a foreign language/s		History	2.24	0.019*
		English	6.47	0.000*
	Computer	History	3.51	0.000*
		Geography	3.11	0.016*
		Social Sciences	3.44	0.018*
		Germany	3.61	0.011*
		History	9.98	0.000*
		Literature	8.63	0.000*
	English	Geography	9.58	0.000*
		Social Sciences	9.91	0.000*
		Turkish	7.66	0.000*
		Psyc. Couns. Guidance.	6.72	0.000*
		History	6.36	0.000*
		Literature	5.01	0.000*
	Germany	Geography	5.97	0.000*
		Social Sciences	6.30	0.000*
		Turkish	4.05	0.003*
	History	Psyc. Couns. Guidance.	3.26	0.005*

*p< .05

Tukey comparison results concerning learning and teaching competence of pre-school teachers at lifelong learning

As given in Table 9, a significant difference was found between the branches of biology and English and history concerning the variance analysis of their views at F value at the level of 0.05 of all dimensions regarding learning and teaching competence of pre-school teachers at lifelong learning. Tukey test was applied to find out in favour of which group the significant difference occurred concerning key competence. It was found that there was no significant difference between learning and teaching competence.

Tukey comparison results concerning the competence of the sense of initiative and entrepreneurship of pre-school teachers at lifelong learning

As shown in Table 10, a significant difference was found between the branches of biology and English and geography, between the branches of computer and

Table 8. Tukey comparison results concerning mathematical and basic competence at science and technology of pre-service teachers at lifelong learning

Dimensions	Branch		Mean	Sig. (p)
Mathematical and Basic Competence at Science and Technology	Mathematics	German	2.83	0.001*
		Literature	2.23	0.010*
		Geography	2.29	0.003*
		Social Sciences	2.11	0.045*
	Chemistry	German	2.65	0.018*

*P<.05

Table 9. Tukey comparison results concerning learning and teaching competence of pre-school teachers at lifelong learning.

Dimensions	Branch		Mean	Sig. (p)
Learning and Teaching Competence		English	1.36	0.006*
	Biology	History	1.00	0.012*

*p< .05

Table 10. Tukey comparison results concerning the competence of the sense of initiative and entrepreneurship of pre-school teachers at lifelong learning

Dimensions	Branch		Mean	Sig. (p)
Competence of the Sense of Initiative and Entrepreneurship	Biology	English	2.24	0.010*
		Geography	2.14	0.012*
		English	2.34	0.038*
	Computer	Geography	2.24	0.047*

*p< .05

English and geography concerning the variance analysis of their views at F value at the level of 0.05 of all dimensions regarding the competence of the sense of initiative and entrepreneurship of pre-school teachers at lifelong learning. Tukey test was applied to find out in favor of which group the significant difference occurred concerning key competence. It was found that there was a significant difference between mathematical and basic competence at science and technology. Depending on these results, when the difference between branches at lifelong learning key competence was evaluated according to all branches, a difference was found in five sub-competence fields, while no significant difference was found in the fields of digital competence, the competence of social and citizenship awareness and the competence of cultural awareness and expression.

CONCLUSION AND RECOMMENDATIONS

It is clear that some decisions regarding lifelong learning have been taken in EU and the developments at practice have constantly been controlled. The system of quality has been achieved in the countries having an advanced

education and practicing lifelong learning. The responsibilities have been shared between shareholders. In the current study, the views of pre-service teachers attending to the 4th grade over lifelong learning key competence was examined. As a result of the analysis carried out, it was determined that gender had no difference on the views of pre-service teachers over lifelong learning competence.

No significant difference was found depending on the total scores of lifelong learning competence of male and female pre-school teachers. Also, a significant difference was not found at lifelong learning competence of pre-school teachers concerning branches. A difference can be observed in each branch. Regarding the communication competence at a foreign language/s of pre-service teachers, a significant difference was found in favour of English compared to all other branches. As for mathematical and basic competence at science and technology for pre-school teachers, there found a significant difference at the views between mathematics and German, literature, geography, social sciences. Concerning the competence of learning and teaching at lifelong learning and of the sense of initiative and entrepreneurship for pre- school teachers, a significant

difference was found at the views between the groups at biology and English and history.

Depending on these results, when the difference between branches at lifelong learning key competence was evaluated according to all branches, a difference was found in five sub-competence fields, while no significant difference was found in the fields of digital competence, the competence of social and citizenship awareness and the competence of cultural awareness and expression. With lifelong learning, every community should make the contribution of individuals to social life constant with the help of its teachers.

In order to increase the lifelong learning competence at pre-service teachers the following could be recommended:

i. So as to increase the variety at the programs of lifelong learning arranged at universities, the views of pre-service teachers and teachers could be applied and in which issues they would like to improve themselves could be determined and some variety could be provided in terms of lifelong learning.
ii. The fact that level of education in countries is low both quantitatively and qualitatively has forced them to follow policies to eliminate the failure. This failure should be regarded as a process not a result in terms of lifelong learning.
iii. Some opportunities should be supplied in favour of those benefitting so little or none of educational facilities at lifelong learning.
iv. People are responsible for their own education, teaching and personal development at lifelong learning. Therefore, they should be given suitable counseling and guidance.
v. The products of information technologies should be used at all lifelong learning activities and at all levels of schools.
vi. In order to obtain lifelong learning in a richer way, learning a foreign language should be given importance. In the study, the lack of learning a foreign language by pre-service teachers was pointed out. That's why, learning a foreign language should be given more attention at teacher training programs.
vii. Some elective courses aiming at improving the competence of pre-service teachers at the sub-competence fields of lifelong learning. These courses could be directly related to sub-competence of lifelong learning (communicative competence at native language, communicative competence at a foreign language/s, mathematical and basic competence at science and technology, digital competence, competence of learning to Learn, competence of social and citizenship awareness, competence of the sense of initiative and entrepreneurship, competence of cultural awareness and expression.

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