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Evaluation of Teacher Candidates' Opinions on 21st Century Competencies Frameworks

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Abstract: ***The Ministry of National Education has determined a framework for the skills and competencies that should be present in students based on the 8 basic skills and competencies required in Lifelong Learning determined by the European Parliament on 18 December 2006. These skills are communication in the mother tongue, communication in foreign languages, mathematical competence and basic competencies in science and technology, digital competence, learning to learn, social and civic competences sense of initiative and entrepreneurship and cultural awareness and expression. Eventually, the acquisition of these skills by students in schools became a desirable situation for the entire educational community. The aim of this research is to determine the opinions of teacher candidates studying at education faculties about 21st century skills depending on some demographic variables. The study group of the research consists of teacher candidates studying in different departments of Mustafa Kemal University Faculty of Education in the 2018 - 2019 academic year. Mixed model and General survey model were used in the research. In the research, Life Skills Scale was used as a data collection tool in order to determine the opinions of teacher candidates. As a result of the research, it was concluded that there is no significant difference of opinion between female teacher candidates and male teacher candidates about 21st century skills depending on gender, department type and grade level. In addition, in the study, it was concluded that the teacher candidates agreed with the scale items at a high level from the arithmetic average of their answers to the life skills scale.***

Keywords: Life skills, Learning to learn, Communication in the mother tongue, Communication in foreign languages, Science literacy

1. Introduction

When it comes to 21st century skills or life skills, the first thing that comes to mind is lifelong learning skills. Based on the 8 basic skills and competencies required in Lifelong Learning determined by the European Parliament on December 18, 2006, The Ministry of National Education has determined a framework for the skills and competencies that students should have (Sarıgöz, 2020). It is among the goals of the 21st century that the skills and competencies mentioned below must be given or acquired in educational institutions. These targets are respectively; communication in the mother tongue, communication in foreign languages, mathematical competence and basic competencies in science and technology, digital competence, learning to learn, social and civic competences, sense of initiative and entrepreneurship and cultural awareness and expression (Otten&Ohana, 2009; Gencel, 2013; Coşkun&Demirel, 2012; Figel, 2007, Demirel, 2010; Hozjan, 2009; Selvi, 2011).

Communication in the mother tongue: Using body language, it is the expression of what the individual wants to tell, both orally and in writing. In particular, it is the ability to speak actively in society and to address the society (European Commission, 2007). In other words, it is the ability of an individual to convey or interact with what they are reading and listening to using their senses.

Communication in foreign languages: It is the ability of the individual to convey their feelings and thoughts in a language other than their mother tongue. The basic competence here is to know a foreign language enough to be able to explain a problem or express themselves, as well as to have knowledge of a foreign language enough to understand the problem of someone speaking in a foreign language and to explain the solution of that problem. In short, the requirement of this competence is to be literate in a foreign language, albeit at a basic level.

Mathematical competence and basic competencies in science and technology: It is the individual's having sufficient mathematical knowledge to handle the tasks that they may encounter in daily life. Scientific competence is the acquisition of scientific skills, albeit at a basic level, in order to cope with the situations that an individual will encounter in life. Scientific competence refers to the ability and desire to utilize knowledge availability and methodology for the explanation of the natural world for the purposes of setting questions and drawing evidence - based conclusions (Karakuş, 2013).

Digital competence: It is to be able to effectively use both mass media and all technology that the individual needs, especially the internet and computer. It includes activities such as the ability of an individual to access the information they need using technology, obtain, store, evaluate and share information. Digital competencies are basic skills that include communicating and participating in collaborative networks via the Internet (Günüç, Odabaşı&Kuzu, 2012).

Learning to learn*:* It is the individual's self - understanding, self - knowledge, learning to be able to learn, and learning to learn. According to Hürsen (2011), it is the ability to be persistent in learning by watching, pursuing, and organizing one's own learning individually and in groups with methods that include effective time and information management. It is the individual's ability to learn what they want to learn by doing research on their own without the need for a tutor. 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 (European Commission, 2007).

Social and civic competences: Social, interpersonal, intercultural and social competences and civic competences encompass all forms of behavior that equip individuals with features that will enable them to participate effectively and constructively in social and working life or business life, especially in increasingly diverse societies, and to resolve conflict when necessary (Sarıgöz, 2021). The competence related to citizenship is based on knowledge about the concepts of democracy, justice, equality, citizenship and citizenship rights (European Commission, 2007).

Sense of initiative and entrepreneurship: It is the ability of individuals to transform their entrepreneurial ideas into action. It is the ability of an individual to achieve their plans or projects to reach their goal by taking risks and using their creativity. This competence gives the employees the opportunity to do what they want to do in their field. This competence also provides a basis for other special skills and knowledge needed by entrepreneurs engaged in social or commercial activities (European Commission, 2007). This competency can also be called the competency of opportunities related to what is desired to be done.

Cultural awareness and expression: It is the expression of an individual's ideas or views on a subject through artistic activities. According to this competence, students should use art as a means of communication and express and announce their ideas, feelings and wishes through art (European Commission, 2007). This competency also develops the individual's creativity, reasoning and thinking skills. An individual's ability to convey an emotion, an idea, to the society through art requires awareness and artistic expression skills.

21st century skills have affected many institutions and organizations, especially students. In schools that have provided qualified personnel to the societies have been affected by this and they are faced with the fact that they need to make significant changes in the education they provide to their students (Sarıgöz, 2021). In this research, the aim is to evaluate the opinions of teacher candidates on 21st century skills, which have just begun to be recognized in our country and which have not been researched much.

2. Method

Research Problem

What is the level of teacher candidates' views on 21st century skills? Do teacher candidates' views on the 21st century differ statistically according to demographic variables such as gender, department type and grade level?

Research Model

This research was carried out in order to determine the opinions of teacher candidates about 21st century skills by taking into account the variables of gender, department type and grade level. For this purpose, the Life Skills Scale developed by Bolat&Balaman (2017) was used as a data collection tool with the permission of the researchers. The Kaiser Meyer Olkin (KMO) value of the Life Skills Scale used in the study and the BarlettSphericity Test values were calculated and the KMO value was calculated as 0.91, and the significance level of the BarlettSphericity Test was calculated as 0.00. The Cronbach Alpha reliability coefficient for the overall scale was calculated as 0.90. According to the results of the Confirmatory Factor analysis, it was observed that the fit indices of the scale consisting of 30 items and 5 factors were at a sufficient level. ($X2 = 886.80$; $p < 0.05$; $sd = 719$; $X2/sd = 2.24$; RMSEA = 0.051; SRMR = 0.052; NFI = 0.93; NNFI = 0.95; CFI = 0.96; IFI = 0.96; GFI = 0.89; AGFI = 0.87). The factor loads of the items in the scale vary between 0.44 and 0.73. The research is in 5 - point Likert type and the skill statements in the scale are "1 - Strongly Disagree", "2 - Slightly Agree", "3 - Moderately Agree", "4 - Highly Agree" and "5 - Completely Agree".

The answers of the teacher candidates participating in the study to the scale items depending on the demographic variables were calculated using the t - test and the Anova test, which is a one - way analysis of variance, with the help of the SPSS 20 statistical package program. Negative items on the scale were calculated by reversing them. The overall evaluation of the scale used in the research is as follows (Dönger, Özkartal&Sarıgöz, 2016):

$$SA = \frac{EYD - EDD}{SS} = \frac{5-1}{5} = 0.80$$

SA: Option Range
EYD: Highest Value
EDD: Lowest Value
SS: Number of Options

1.00 - 1.80: Strongly Disagree
1.81 - 2.60: Slightly Agree
2.61 - 3.40: Moderately Agree
3.41 - 4.20: Highly Agree
4.21 - 5.00: Completely Agree

General survey model, which is one of the mixed method and descriptive survey methods, was used in the research. Mixed methods research is defined as the researcher combining qualitative and quantitative methods, approaches and concepts within a single study or closely related studies (Johnson &Onwuegbuzie, 2004). The general survey model is the scanning arrangements made on the entire universe or a group of samples or samples to be taken from the universe in order to make a judgment about the universe in a universe consisting of a large number elements (Karasar, 2010: 79).

3. Findings

In this part of the research, the analysis of the data obtained from the research, the tables of the analysis, the findings and comments are included.

Table 1: Results of t - test analysis of teacher candidates' views on 21st century skills by gender variable

Gender	N	$\overline{X}$	Ss	Sd	t	p
Female	271	125.458	6.898	469	1.575	.116
Male	200	126.460	6.735			p>.05

When the data in Table 1 is examined, as a result of the answers given by the teacher candidates participating in the research to the 21st century life skills scale, there is no statistically significant difference (p>.05) between female students and male students according to the gender variable of the views of the teacher candidates studying at the Faculty of Education about 21st century life skills is determined.

Table 2: Anova test analysis results according to the department type variable of teacher candidates' views on 21st century skills

Department Type	N	$\overline{X}$	Ss	Var. Kay.	Kar. Top.	Sd	Var. Ort.	F	p	Sgn. Diff. (Anova)
1) ELT	104	126.20	7.06	Interg.	95.89	3	31.96	.682	.563	p>.05
2) Turkishteacher	110	126.04	6.35	In gr.	21892.69	467	46.88			
3) PCG	118	125.11	7.73	Total	21988.68	470				
4) Primary S T.	139	126.18	6.24							
Total	471	125.88	6.40							

Analyzing the data in Table 2, as a result of the answers given by the teacher candidates who participated in the research to the 21st century life skills scale, it is determined that among the students studying in English Language Teaching, Turkish Language Teaching, PCG and Primary School Teaching departments at the Faculty of Education, there is no significant difference (p>.05) between the opinions of the teacher candidates about the 21st century skills according to the type of department variable.

Table 3: Anova test analysis results according to grade level variable of teacher candidates' views on 21st century skills

Grade Level	N	$\overline{X}$	Ss	Var. Kay.	Kar.Top.	Sd	Kar.Ort.	F	p	Sgn. Diff. (Anova)
1) 2nd grd	150	126.25.74	7.02	Interg.	30.58	2	15.29	.326	.722	
2) 3rd grd	155	125.75	6.71	In gr.	21957.99	468	46.92			
3) 4th grd	166	125.67	27.68	Total	21988.57	470				
Total	471	125.88	6.84							p>0.05

When the data in Table 3 is examined, it is seen that, as a result of the answers given by the teacher candidates participating in the research to the 21st century life skills scale, it was determined that skills among the 2nd grade, 3rd grade and 4th grade students studying at the Faculty of Education, there is no significant difference (p>.05) between the opinions of the teacher candidates about the 21st century skills according to the grade level variable.

When the data obtained in the study are examined in terms of the overall scale, it is determined that the items with the highest arithmetic mean scores are the items that 'I can define that I am facing a problem', 'I can use stress positively for the things I will do', 'I can predict the consequences of the decisions I will make on a subject' and 'I can act by being aware of personal communication skills'.

When the data obtained from the answers given by the participants to the scale items are examined in terms of the overall scale, it is determined that the items 'I can realize what my talents can achieve', 'I can focus on my interests', 'I can take all the responsibilities at the moment of a decision' and 'I can think analytically while thinking about events' had the lowest arithmetic mean.

Analyzing the answers given by the participants to the scale items, it is determined that the general arithmetic average of the scale is 4.197 this value corresponds to the 'I agree very much' level of the scale.

4. Conclusion and Discussion

In this research, some information was provided about the basic life skills of the 21st century and the opinions of teacher candidates about the life skills of the 21st century were tried to be determined. In the present research, based on the responses given to the 21st century life skills scale items, we tried to determine the variables and the relationships between the variables depending on the demographic variables of gender, department type and class level, and the arithmetic mean of the scale.

In the research, based on the answers given to the scale items in the study, there was no significant difference of opinion between female teacher candidates and male teacher candidates depending on the gender variable. Therefore, in the research, it was concluded that female teacher candidates and male teacher candidates share the same or similar views about 21st century life skills. However, since 21st century skills are a product of modernity or modern thinking, they may differ depending on gender, age, income, region or schools.

According to the answers given to the scale items in the research, no significant difference of opinion was found among the teacher candidates studying in English Language Teaching, Turkish Language Teaching, and PDR and Classroom Teaching departments, depending on the type of department. Thus, in the research, it was concluded that teacher candidates studying in different departments share the same or similar views on 21st century life skills. The research is generally based on social - oriented departments. Hence, the results to be obtained in the science - oriented departments regarding 21st century skills may differ from the social - oriented departments. For this reason, new researches should also be carried out based on science - oriented departments.

In the research, no significant difference of opinion was found between the 2nd grade, 3rd grade and 4th grade

teacher candidates, depending on the grade level variable. Therefore, in the research, it was concluded that teacher candidates studying at different grade levels share the same or similar views about 21st century life skills.

When the data obtained in the research were examined in terms of the overall scale, it was determined that the items that 'I can define that I am facing a problem', 'I can use stress positively for the things I will do', 'I can predict the consequences of the decisions I will make on a subject' and 'I can act by being aware of personal communication skills' had the highest arithmetic mean. Based on these items, it was concluded in the research that the teacher candidates know how to act when they encounter a problem and that they can predict that they may encounter a problem before they encounter a problem.

When the data obtained from the answers given by the participants to the scale items were analyzed in terms of the overall scale, it was determined that the items 'I can realize what my talents can achieve', 'I can focus on my interests', 'I can take all the responsibilities at the moment of a decision' and 'I can think analytically while thinking about events' had the lowest arithmetic mean. Based on these items, it was concluded in the research that teacher candidates have hesitations about directing themselves to a topic and that they have problems with a very low level of self - confidence. Teacher candidates should be trained according to the results obtained from this research and similar results obtained from other studies, and teachers working in the state should be better equipped with 21st century skills through in - service trainings when necessary.

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