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Evaluation of Social Studies Teacher Training Program in Terms of 21st Century Skills

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Abstract

The purpose of this study, in which the mixed explanatory method was used, is to reveal how sufficient the current social studies teaching undergraduate program is in providing 21st-century skills, from teacher candidates' perspective. Survey design was used in the quantitative dimension, and phenomenology pattern was used in the study's qualitative dimension. The 21st century skills scale was used to collect the quantitative data, and the semi-structured interview form was used to collect the qualitative data. Since quantitative and qualitative research models were employed together in the study, a sample was taken from the research universe, and the study group was determined. The sample of the study consisted of 335 social studies teacher candidates studying at a state university. The findings of the study revealed that the social studies teacher training program is better in acquiring cooperation and communication skills among 21st century skills, but it is not sufficient in acquiring teaching skills in global connections and digital environments. In addition, the findings indicate that although the 21st century skills are included in the social studies teacher training program as the skills to be acquired, these skills are not employed in the learning processes. It is essential that the educational experiences presented by teacher educators to be a model for teacher candidates to use 21st century skills. Teacher educators should also understand the importance of how the content is taught as well as what is taught. Especially in teacher training programs, a detailed program and assessments targeting these skills should be included.

Keywords: 21st century skills, teacher education, social studies education, mixed-method

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Introduction

The call for 21st century knowledge frameworks is based on the claim that education has failed to prepare students for the 21st century demands. The school (in terms of organization, structure, and format) has remained the same today as it was during the 20th century. It has become clear that the workforce required by an increasingly globalized economy requires a completely different educational model that transcends repetition, basic applied knowledge, and limited literacy skills of the 20th century (Kereluik, Mishra, Fahnoe & Terry, 2013). These skills and competencies are often called 21st century skills and competencies to show that they emerged more in line with economic and social development models' needs compared to the last century (Ananiadou & Claro, 2009). Parallel to the interest in teaching and learning 21st century skills, educational researchers have made efforts to develop a framework for 21st century skills. These efforts have led to a series of frameworks. Many organizations around the world have independently developed frameworks for these skills. Some of these are as follows:

The Partnership for 21st Century Skills (2007) in the United States has developed a framework that combines the certain student outcomes of the skills learned in the 21st century with support systems to prepare students to work and become more competitive in a global economy. Within this framework, student outcomes include (1) Core Subjects and 21st Century Themes; (2) Learning and Innovation Skills; (3) Information, Media and Technology Skills; (4) Life and Career Skills (Jia, Oh, Sibuma, LaBanca & Lorentson, 2016). Key subjects on which these skills are based include "*Language acquisition, reading and language arts, world languages, art, mathematics, economics, science, geography, history, government, and civics*." Then, based on these keywords, 21st century interdisciplinary themes were identified. These 21st century themes include global awareness, entrepreneurial-economic or financial literacy, civics literacy, health literacy, and environmental literacy. Learning and innovation skills comprise creativity, critical thinking, and problem-solving, communication, and collaboration. Information, media, and technology skills are made up of information literacy; media is composed of information, communication, and technology literacy. Life and career skills often require personal skills: flexibility and adaptability, initiative and self-direction, productivity, accountability, leadership, and responsibility (Geisinger, 2016). Since its development, this framework has been referred to in the development of most 21st century programs.

The Standards for the 21st Century Learner (AASL, 2007), on the other hand, emphasizes the importance of four skill components to improve information literacy in the 21st century: (1) inquire, think critically and gain knowledge acquisition; (2) draw conclusions, make decisions, apply information to new situations and create new knowledge; (3) share knowledge and participate ethically and productively as a member of a democratic society; and (4) pursue personal and aesthetic growth. Within each component, AASL standards outline the necessary skills, trends in action, responsibilities, and self-assessment strategies that learners could show to achieve these standards (Jia et al., 2016).

In another study, Binkley, Erstad, Herman, Raizen, Ripley, Miller-Ricci and Rumble (2012) developed a general conceptual scheme to analyze the 21st century skill frameworks. This scheme defines ten capabilities divided into four categories. Although there are significant differences in the way these skills are defined and clustered from one framework to another, the following ten items are broad and comprehensive enough to cover all approaches:

- Way of thinking: (1) Creativity and innovation, (2) Critical thinking, problem-solving, decision-making, (3) Learning to learn, metacognition.
- Way of Working: (4) Communication, (5) Cooperation (teamwork)
- Working Tools: (6) Information literacy (including research on resources, evidence, prejudices, etc.), (7) Information communication technology literacy
- Integration into the World: (8) Citizenship - local and global, (9) Life and career, (10) Personal and social responsibility - including cultural awareness and competencies.

Similarly, in 2014, UNESCO published Guiding Principles for Learning in the Twenty-first Century, which goes beyond the competence framework concept. These guiding principles address the following set of competencies and attitudes: academic honesty, information literacy, critical thinking, creativity, STEM (science, technology, engineering, and math) learning, concepts-focus learning, health and mindfulness, service learning, learning support and assessment. The guiding principles' focus is not on the definition of the competencies but on helping children, and young people acquire these competencies.

Although 21st century skills are defined differently, in general, all definitions emphasize what students can do with knowledge and how they apply what they have learned in an authentic context. The core of the twenty-first-century skills focuses on effective

communication and collaboration skills, technology expertise, innovative and creative thinking skills, and problem-solving skills. In this respect, the question of whether twenty-first century skills are new comes to mind (Larson & Miller, 2011). According to Silva (2009, p. 631), 21st century skills are not new, but "newly important" because today's workers must find and analyze information from multiple sources and use it to make decisions and create new ideas. Historically, the need for these learning and innovation skills can be traced back to the first professional teachers, Socrates and Sophists (Larson & Miller, 2011).

Supporters and advocates of the 21st century skills movement argue that there is a need for reform in schools and education to respond to the social and financial needs of students and society in the 21st century (Larson & Miller, 2011). Teachers are expected better to prepare students for the 21st century business world. Being ready for labor in the 21st century requires students to use problem-solving, assessment, reasoning, decision-making, and the ability to use digital technology and apply them to complex and challenging tasks. Studies on the evaluation of learning or teaching 21st century skills are often centered on examining a subset of these skills (Jia et al., 2016). However, they have not made a systematic assessment of the entire skill set of the 21st century. It is believed that such a study could serve to identify the required areas in teacher training to develop 21st century skills teaching. In other words, this study may help identify the strengths and weaknesses of the Social Studies program in acquiring the specified 21st century skills. Such studies can also be used as a self-reflection or assessment tool for current and future teachers to learn 21st century skills and know the skills to identify the areas that can be strengthened (Jia et al., 2016). It can also help teacher educators understand 21st century skills and see what they teach and how they train and prepare teacher candidates. For these purposes, the study sought to answer the following research questions.

1. To what extent do social studies teacher candidates have 21st century skills?
2. Is there a significant difference in the 21st century skills mean scores of social studies teacher candidates based on gender?
3. Is there a significant difference in the 21st century skills mean scores of social studies teacher candidates based on grade level?
4. What are the major obstacles to teaching these skills during teacher education?
5. How can university and teacher educators help to develop these skills?

Method

Research Design

In this study, a mixed explanatory method was used to reveal how efficient the current social studies teacher training program is to acquire 21st century skills from teacher candidates' perspectives. According to Creswell (2008), the basic assumption of mixed-method research is that simultaneous or blended qualitative and quantitative research methods provide a better understanding of research problems and questions than using these methods separately. The study is carried out as two different research projects in the mixed explanatory method. First, quantitative research is conducted, and then qualitative research is planned based on this (Creswell, 2008).

The main reason for choosing a mixed method in this study is that a mixture of qualitative and quantitative methods provides a better understanding of the research problem than each method would do alone. The data collected in the study through the qualitative research method helped to validate the quantitative results in the first stage and carry out an in-depth investigation into the causes and solutions of the problems experienced by teacher candidates. In this study, 21st century skills scale for teacher candidates and semi-structured interview form were used as data collection tools. At first, quantitative data were collected and analyzed during the research, and then qualitative data were collected and analyzed. The analysis results of both data sets were compared and interpreted to see if the results were compatible with each other.

Quantitative Dimension

In the quantitative dimension of the study, the survey method was used. The survey method includes research conducted to reveal the level, view, attitude, interest, and competence of the participants of study on a subject or situation (Büyüközürk, Kılıç-Çakmak, Akgün, Karadeniz & Demirel; 2008).

Research sample

The sample of this study consists of 335 social studies teacher candidates. A total of 194 (57.9%) participants were female, and 141 (42.1%) were male. To reveal how adequate the program is in gaining 21st century skills and whether there is a difference between classes, cluster sampling was used in the study. Cluster sampling is a sampling type made when all

the universe clusters have the chance to be selected equally with all the elements (Karasar, 2018, p. 153).

Quantitative data collection tool

In this study, the measurement tool developed by Niemi, Pehkonen, Niu, Teng and Harju (2018) was used in order to conceptualize 21st century skills. The instrument was translated into Turkish by the researcher and then reviewed by two field educators and one English instructor. Necessary corrections were made by the feedback received, and the scale was finalized.

As a result of the CFA (Confirmatory Factor Analysis) analysis conducted within the construct validity study's scope, the standardized factor loads between the items in the original form of the scale and the structure measured by the items were found statistically significant according to t values. CFA t values for 21st century skills scale ranged between 9.82 and 12.12 (Appendix 1). Therefore, it was not necessary to remove any item from the scale (Seçer, 2015).

The second examined situation about CFA is the factor load values of the items. It can be seen in Appendix 2 that all factor loads are above 0.30 (Seçer, 2015) (Only the last item under the Making Local Connections factor is valued at 0.29). Therefore, it can be said that the items in the scale measure the structure of the 21st century skills scale.

As a result of the applied CFA, chi-square ($\chi 2$) compliance, and the mean square root of the approximate errors (Root Mean Square Error of Approximation, RMSEA) values were examined. In the chi-square fit test, obtaining the chi-square/degree of freedom value less than three (3) was evaluated as an indicator of good fit (Schumacker & Lomax, 2010). RMSEA $\leq$ 0.05 (Schermelleh-Engel, Moosbrugger & Müller, 2003) was considered as the perfect fit. The findings are presented in Table 1.

Table 1. *CFA Fit Indices for* 21st *Century Skills Scale*

	χ2/sd	**RMSEA**
Scale	1.72	.046

As the sample grows, the probability of chi-square analysis results is increasing. In many CFAs, because the sample is large, the p-value is normal, and this is tolerated in most

studies (Büyüköztürk, Akgün, Özkahveci & Demirel, 2004). Based on these findings, it can be said that the data confirm the factors.

In this study, a reliability study was carried out. Reliability can be defined as the degree to which a measurement tool provides sensitive, consistent, and random error-free measurements (Fraenkel & Wallen, 1996). In this study, the reliability of the scale was calculated with Cronbach Alpha. The reliability of the total scores obtained from the 21st century skill scale and the sub-factors' total scores were calculated and presented in Table 2.

Table 2. *Cronbach's Alpha Reliability Coefficients*

The Scale and Sub *Dimensions*	**Cronbach's Alpha**	**Number of Items**
Total Scale	0,96	58
Critical Thinking	0,84	6
Collaboration	0,89	6
Communication	0,87	7
Creativity & Innovation	0,85	5
Self-management / Self-regulation	0,87	7
Making Global Connections	0,88	6
Making Local Connections	0,88	5
Using Technology as a Tool for Learning	0,90	8
Teaching skills in digital environments	0,91	8

For reliability, the Cronbach alpha coefficient must be .7 and greater than .7 (Palant, 2017). As shown in Table 2, the reliability of the total score and that of the sub-factors' item scores were found to be over .7. In this context, it can be said that the total scores and the item scores of the sub-factors are free from random errors, and the degree of consistency of the scores obtained by the participants from this scale is sufficient.

Data collection process

The scale was prepared by the researcher electronically. The social studies teacher candidates were first informed about the scale and the study, and then the web address of the

q scale was shared with the teacher candidates. ***Data were collected during the 2018-2019 academic years.***

Data analysis

The scale was 5-point Likert type (Very inadequate, Inadequate, Moderate, Good, Very good) and consisted of 58 items. The maximum score obtained from the scale was 290 points, and the minimum score was 58. The minimum score was subtracted from the maximum score that the participants could get, and the score found was divided into 5 (since it was a 5-point Likert type). The final score was added to the minimum score that the participants could get, and the ranges were determined for the adequacy of the current social studies teacher training program to acquire 21st century skills.

The total scores of the participants were calculated. To decide on the analyzes to be performed, the normality test was carried out, and the following results were obtained:

Table 3. *Normal distribution analysis of* 21st *century skills total scores and sub-factors*

	N	**Mean**	**Mod**	**Median**	**Kurtosis**	**Skewness**
Total Scale	335	216	205	218	-,250	-,066
Critical Thinking	335	22	24	22	,155	-,380
Collaboration	335	23	23	24	,133	-,359
Communication	335	27	28	28	,080	-,323
Creativity & Innovation	335	19	20	19	,329	-,422
Self-management / Self-regulation	335	26	28	27	,884	-,499
Making Global Connections	335	18	24	21	,131	-,458
Making Local Connections	335	18	20	19	,384	-,489
Using Technology as a Tool for Learning	335	30	32	31	,375	-,449
Teaching skills in digital	335	30	32	30	,701	-,591

environments

Female	193	215	217	205	,008	-,302
Male	137	219	220	236	-,132	-,271
1.Grade	70	213	215	214	-,302	-,256
2. Grade	64	210	171	205	-,581	,288
3. Grade	119	217	205	219	,556	-,330
4. Grade	75	222	230	230	,386	-,632

As shown in Table 3, the mean, mode, and median values of the total scores of 335 students from the skill items in the total scale and sub-factors are close to each other. The kurtosis and skewness values are in the range of +2, -2 (Pallant, 2017). In this context, the total scale of 335 students and the total scores obtained in each skill show a normal distribution. Thus, to find answers to sub-problems, t-test for Independent Samples and One-Way Analysis of Variance (ANOVA) were performed, which are parametric statistical techniques. In this study, SPSS (22) and LISREL (8.7) were used for the analyses.

Qualitative Dimension

Qualitative data collection tool and data analysis

The study, designed as exploratory mixed-method research, is a phenomenology study determining how much social studies teacher training program helps teacher candidates achieve 21st century skills. In other words, in the qualitative dimension of the study, the phenomenology design, which is one of the qualitative research designs, was used to reveal the teacher candidates' opinions about their experiences. Phenomenology is a research design that focuses on cases that we are aware of but do not have an in-depth and detailed understanding of. Data source in phenomenology includes individuals or groups who experience the subject that the research focuses on and can express or reflect this phenomenon (Creswell, 2008). The perceptions of the teacher candidates, who were the data source in the present study, were investigated based on their experience in the education faculty.

In the qualitative dimension of the research, a semi-structured interview form developed by the researcher was used. Theoretical knowledge obtained by reviewing the relevant literature and expert opinions were taken as a basis while preparing the semi-structured interview form. The semi-structured interview form was reviewed by a faculty member specialized in social studies education and revised in line with the recommendations received and finalized after the pilot studies. Research data were collected through the focus group interview technique in the last week of the semester. The semi-structured interview was attended by 11 (6 Male, 5 Female) and 4th-grade social studies teacher candidates among the teacher candidates who answered the scale. The teacher candidates who participated in the interview were determined on a voluntary basis. However, 4th-grade teacher candidates were preferred for the evaluation of the whole undergraduate program. The interview lasted 45-50 minutes and was recorded with a tape recorder. Then, the recording was transferred to Word, and content analysis was performed. The interview questions used in the study are as follows:

1. How does the social studies teacher training program guide teacher candidates to acquire 21st century skills?
2. Which of your skills do you think are the strongest? Why?
3. Which of your skills do you think are the weakest? Why?
4. What are the most important obstacles to learning these skills during teacher education?
5. What kind of skills would you like to develop?
6. How can university or faculty members help and support you in developing these skills?

Validity and reliability of qualitative data

In order to ensure validity and reliability, the data were evaluated by two different researchers. As a result of examining the data obtained from semi-structured interviews, the data were placed in appropriate categories. The categories were reexamined in line with their similarities and differences. The number of agreement and disagreement in the comparisons were identified, and the reliability of the research was calculated using Miles and Huberman's (1994) formula (Reliability=agreement/agreement+disagreement). Thus, 91% of the reconciliation rate was obtained in the reliability study conducted for this research.

Results

Findings Related To The First Sub-Problem

To answer the question, “To what extent do social studies, teacher candidates have 21st century skills? Firstly, the ranges were determined for the social studies teacher training program's adequacy level acquire 21st century skills. The distribution of the participants according to the range of their total scores is demonstrated in Table 4.

Table 4. *Distribution of the participants according to the 21st century skills total score ranges*

Level	**Ranges**	**f**	**%**
Very inadequate	58-104	-	-
Inadequate	105-151	5	1,5
Moderate	152-198	84	25,1
Good	199-245	194	57,9
Very good	246-290	47	14,0

As can be seen in Table 4, according to the total scores obtained from the scale, five teacher candidates stated that the program was poor in terms of acquiring 21st century skills, 84 teacher candidates who stated that it was moderate, 194 teacher candidates who indicated that it was good, and 47 teacher candidates who said that it was very good. When the frequency percentages of the levels are examined, it is seen that 71.9% of the participants stated that the program is good and very good in terms of acquiring 21st century skills.

In this study, 21st century skills were divided into factors and examined. 21st century skills were categorized into nine factors: critical thinking, collaboration, communication, creativity and innovation, self-regulation, global connections, and local connections, using technology as a tool for learning and teaching skills in digital environments. The adequacy level ranges of each sub-factor were determined. The frequency and percentage values of the sub-factors determined according to the level ranges are given in Table 5.

Table 5. *Frequency values determined according to the level range of 21st century skills sub-factors*

	Very inadequate		**Inadequate**		**Moderate**		**Good**		**Very good**	
	f	**%**	**f**	**%**	**f**	**%**	**f**	**%**	**f**	**%**
Critical Thinking	-	-	15	4,5	85	25,4	190	56,7	44	13,1
Collaboration	2	0,6	11	3,3	77	23,0	160	47,8	85	25,4
Communication	-	-	13	3,9	72	21,5	174	51,9	71	21,2
Creativity & Innovation	2	0,6	17	5,1	94	28,1	160	47,8	62	18,5
Self-management	2	0,6	13	3,9	98	29,3	185	55,2	37	11,0
Making Global Connections	11	3,3	42	12,5	101	30,1	138	41,2	43	12,8
Making Local Connections	6	1,8	31	9,3	89	26,6	151	45,1	58	17,3
Using Technology as a Tool for Learning	3	0,9	17	5,1	92	27,5	158	47,2	65	19,4
Teaching skills in digital environments	8	2,4	22	6,6	105	31,3	143	42,7	57	17,0

When Table 5 is examined, it is seen that the social studies teacher training program is better in acquiring the skills of cooperation and communication among 21st century skills. Still, it is not adequate to acquire the skills of global connections and teaching in digital environments. Considering the frequency percentages determined according to the ”good” and “very good” level ranges of each skill, the ranking from the most successful to the least successful is as follows: Cooperation skill (73.2%), communication skill (73.1%), critical

thinking skill (69.8%), the ability to use technology as a tool for learning (66.6%), creativity and innovation skill (66.3%), self-regulation skill (66.2%), local connections (62.4%) teaching in digital environments (59.7%) and global connections (54.0%).

Findings Related to The Second Sub-Problem

To find an answer to the sub-problem, "Is there a significant difference in the 21st century skills mean scores of teacher candidates based on gender?" An Independent Sample t-test was conducted.

Levene test was performed to determine whether the groups' variances were equal or not, and it was concluded that the variances of the answers given by the male and female students were equal (F=,760; p>0.01). As a result of the t-test analysis, no significant difference at the level of 0.05 significance was found between the 21st century skills total scores of the students of different genders (t = -1,208, p =,228). The findings are illustrated in Table 6 below.

Table 6. *Independent Samples t-test for male and female participants*

	N	**X**	**Sd**	**t**	**df**	**p**
Female	193	214,6	29,5	-1,208	328	,228
Male	137	218,5	27,7			

Apart from the total score of the independent samples t-test, sub-factors of the 21st century, skills were also examined.

As shown in Table 7, the variances of the males and females were equal in each of the 21st Century skills sub-factors. As a result of the t-test analysis, a significant difference was observed in cooperation scores in favor of female social studies teacher candidates and global connections and digital environment in favor of male social studies teacher candidates.

Table 7. *Independent Samples t-test for male and female participants*

	Levene's Test		Gender	N	X	s.s	t	df	p
	F	Sig.							
Critical Thinking	,100	,752	Female	194	22,06	3,42	,256	332	,798
			Male	140	21,96	3,44			
Collaboration	,319	,573	Female	194	23,31	4,09	2,183	333	,030
			Male	141	22,34	3,94			
Communication	2,103	,148	Female	193	27,17	4,63	,642	328	,521
			Male	137	26,86	4,01			
Creativity & Innovation	3,791	,052	Female	194	18,69	3,46	,060	333	,952
			Male	141	18,67	3,09			
Self-management	,050	,822	Female	194	25,98	4,26	,496	333	,620
			Male	141	25,75	4,42			
Global Connections	,928	,336	Female	194	20,11	4,96	-2,283	333	,023
			Male	141	21,34	4,72			
Local Connections	,052	,820	Female	194	18,09	3,73	-,788	333	,431
			Male	141	18,43	3,97			
Using Technology as a Tool for Learning	,009	,923	Female	194	30,38	5,70	-,116	333	,908
			Male	141	30,46	5,88			
Teaching skills in digital environments	,015	,903	Female	194	28,64	6,10	-3,174	333	,002
			Male	141	30,83	6,38			

Findings Related to The Third Sub-Problem

One-Factor Analysis of Variance (ANOVA) was performed to solve the sub-problem "Is there a significant difference between the 21st century skill mean scores of teacher candidates according to grade level?" The results obtained from the Levene's test show that total score variances were equally distributed among all grades (Table 8). As the variances were equal, whether there was a difference between the grades in the LSH test was examined in post hoc analysis.

Table 8. *ANOVA Levene Statistical Values in Terms of Factors*

	Levene Statistic	**df1**	**df2**	**Sig.**
Critical Thinking	1,184	3	330	,316
Collaboration	,391	3	331	,759
Communication	,534	3	326	,659
Creativity & Innovation	,102	3	331	,959
Self-management / Self-regulation	,912	3	331	,435
Making Global Connections	2,096	3	331	,101
Making Local Connections	,483	3	331	,694
Using Technology as a Tool for Learning	,825	3	331	,481
Teaching skills in digital environments	1,440	3	331	,231
Scale General	,266	3	326	,850

Table 8 indicates that no significant difference was observed between the grades in terms of the 21st century skills total scores of 1st, 2nd, 3rd, and 4th-grade teacher candidates. However, when the total scores that the teacher candidates obtained from the sub-factors of 21st century skills were considered, a difference was found between the grades only in the mean scores of teaching skills in digital environments. It was determined that the 4th-grade teacher candidates' mean scores in teaching skills in digital environments were significantly better than the 1st, 2nd, and 3rd-grade teacher candidates (Table 9).

Table 9. *Class-based values of the factors according to ANOVA results*

	Source of Variance	**Sum of Square**	**df**	**Mean Square**	**F**	**Sig.**
Critical Thinking	Between Groups	13,397	3	4,466	,377	,769
	Within Groups	3905,456	330	11,835		
	Total	3918,853	333			
Collaboration	Between	24,662	3	8,221	,498	,684

	Groups					
	Within Groups	5464,281	331	16,508		
	Total	5488,943	334			
Communication	Between Groups	125,698	3	41,899	2,204	,088
	Within Groups	6198,620	326	19,014		
	Total	6324,318	329			
Creativity & Innovation	Between Groups	23,337	3	7,779	,707	,548
	Within Groups	3640,753	331	10,999		
	Total	3664,090	334			
Self-management / Self-regulation	Between Groups	36,137	3	12,046	,642	,589
	Within Groups	6214,777	331	18,776		
	Total	6250,913	334			
Making Global Connections	Between Groups	84,372	3	28,124	1,175	,319
	Within Groups	7921,199	331	23,931		
	Total	8005,570	334			
Making Local Connections	Between Groups	40,240	3	13,413	,910	,436
	Within Groups	4876,656	331	14,733		
	Total	4916,896	334			
Using Technology as a Tool for Learning	Between Groups	256,111	3	85,370	2,598	,052
	Within Groups	10877,382	331	32,862		

	Total	11133,493	334			
Teaching skills in digital environments	Between Groups	1069,251	3	356,417	9,644	,000
	Within Groups	12232,851	331	36,957		
	Total	13302,101	334			
Scale General	Between Groups	5779,335	3	1926,445	2,352	,072
	Within Groups	266980,753	326	818,959		
	Total	272760,088	329			

Findings Related To The Fourth Sub-Problem

Five themes emerged from the analysis of the teacher candidates' views on the question, "What are the major obstacles to teaching these skills during teacher education?" Table 10 illustrates the excerpts and themes from the statements of the teacher candidates. Table 10. *Major Obstacles to Teaching These Skills During Teacher Training*

Themes	***Student Statements***
The use of the direct instruction method	There is still teacher-centered education at university, not student-centered. We are still suffering from this, so it is inadequate to guide us. Even our educators, who recommend us to teach student-centered lessons, teach their lessons in a teacher-centered way. Our courses are generally teacher-centered, and creativity and innovation cannot be expected in a teacher-centered program. I do not think that the educators add anything to the students in terms of critical thinking or creativity since the educator teaches the lesson by using only note-taking or direct instruction methods for what the curriculum of that period requires.
The incompetence of the supervisors	One of my teachers who graduated from here in 2013 is my internship supervisor, and I am very surprised that he uses the direct

	instruction method. He is a 2013 graduate, which is very recent, but he knows nothing. This week I introduced the students to social empathy, and he said, "I heard it for the first time, and I like it very much; it is very different." He was even surprised; he did not know. He only instructs and asks students to take notes; I know that he made us write for two hours. The student memorizes the notes he has taken but does not learn social studies. In the school experience, teachers regard internship students as a way out, and they consider us an opportunity to leave the classroom and take a breath, so we gain nothing from their experience. In addition, you know that all of the teachers in the internship schools have an experience over 15-20 years; being experienced is an advantage, but it may turn into a disadvantage because they become more resistant to change.
Class arrangement	When we look at the class arrangement, the teacher podium where teachers give a lecture shows the hierarchy between the teacher and the student. The desks in our classes were mobile in the past, but then they were all fixed on the grounds because it was difficult to clean the classes. I think this affects the learning environment in the classroom, too, because you are fixing the student there. There are some problems in our classrooms. For example, I think we can focus better if the class has a U-shaped layout.
KPSS anxiety	There is a reality of the Public Personnel Selection Examination (KPSS) that we need to pass before being teachers. Our concern for the future prevents us from improving ourselves. Everyone is focused on department courses. Assignments are made according to the KPSS score; the skills that the prospective teacher can add to the student are not considered

When Table 10 is examined, it was reported that the main obstacle for the participating teacher candidates to gain 21st century skills was that although teacher

educators emphasized the importance of student-centered courses, they did not teach their lessons in that way. In addition, it was stated that the supervisors in the teaching practice courses were inadequate in guiding the students to gain these skills, the physical conditions of the classes in the faculty of education were not suitable for student-centered (active) learning, and the KPSS (Public Personnel Selection Exam) exam was focused more on cognitive skills.

Findings related to the fifth sub-problem

Five themes emerged from the analysis of the teacher candidates' views on the question "How can teacher educators help develop these skills?" Table 11 shows the excerpts and themes from the statements of the teacher candidates.

Table 11. *Suggestions For Developing These Skills In Teacher Education*

Themes	***Student Statements***
Teacher educators should be a model	First of all, educators should use these skills themselves to help students to gain them. Educators should demonstrate techniques that can be useful. A classroom environment in which students take more roles than educators can be created.
Skill-based lessons should be included	New courses specific to social studies can be offered: e.g., communication, critical thinking. We have a lesson on communication, but all of them are theoretical; we do not put into practice. There can be a course for social participation skills, critical thinking, and analysis. There must be skills-oriented lessons. I wish the number of courses aimed at gaining skills and values would be increased. I felt that my communication skills increased in drama classes, I wish drama classes are offered every semester, especially in the 1st grade.

Inspections should be done	All the skills you emphasize are very good in theory, but we have problems in practice. If necessary, students should be tested with contemporary tests by the new program. Whether educators understand this should be checked; I believe it would be healthy if this were controlled. I believe many educators in our department have not taken pedagogical formation courses. It does not end with being an educator; you can change your method or technique. I think educators have huge responsibilities; they need to have a control mechanism; I mean, they must be responsible for improving themselves.
There should be more school experience course	Teaching practice should not be done only in the fourth grade; it should start in earlier grades.

When Table 11 is analyzed, it is seen that teacher candidates stated that teacher educators play a key role in developing 21st century skills in teacher education. The teacher candidates also emphasized that new courses for these skills should be included in the program and whether the skills included in the program were implemented in the practice program should be examined through alternative assessment and evaluation methods.

Discussion and Conclusion

The data obtained from the teacher candidates included in the study indicate that 71.9% of the participants reported that the social studies teacher training program was good and very good to acquire 21st century skills. In addition, 21st century skills were divided into factors and examined as well. Considering the frequency percentages determined according to the ”good” and “very good” level ranges of each skill, the ranking from the most successful to the least successful is as follows: Cooperation skill (73.2%), communication skill (73.1%), critical thinking skill (69.8%), the ability to use technology as a tool for learning (66.6%), creativity and innovation (66.3%), self-regulation skills (66.2%), the ability to make local connections (62.4%) teaching skills in digital environments (59.7%) and the ability to make global connections (54.0%). Accordingly, the data obtained from the teacher candidates revealed that the social studies teacher training program is better in acquiring cooperation

and communication skills among 21st century skills, but it is not sufficient in acquiring global connections skills and teaching skills in digital environments. It is an important weakness that the program is considered inadequate in global connections skills, one of the program's learning areas. This result can be interpreted so that although the global connections learning field's content and scope cover all the general themes of global education understanding in the official curriculum, it is inadequate in the practice program. As stated in the study conducted by Binkley et al. (2016), 21st century skills are only defined in the program, but since there is no depth of detail on how these skills will be achieved, these skills are unlikely to be reflected in students' actual learning experiences or the assessments done. Furthermore, it is difficult to predict when and how education systems will change dramatically for most students without the invaluable assessment of these 21st century goals or objectives that need to be taught (Binkley et al. 2016). In this regard, Honey has launched worldwide research on the use of 21st century assessments that investigate the existence and quality of the assessments in key areas, including global awareness, and found that there were no assessments in the program to address students' understanding of global and international issues (cited in Binkley et al. 2016: 55). Unfortunately, there is no depth of detail on how to acquire the skills stated in the program in our country, and there is also no evaluation of whether these skills are acquired or not. Therefore, these skills are only included in the official program and cannot be put into practice. Besides, as seen in the qualitative dimension of the study, KPSS is an important obstacle in the professionalization process of teacher candidates and encourages them to memorize department courses rather than skill development.

Another finding of the study is that the program is insufficient to develop teacher candidates' teaching skills in digital environments. This finding is in line with the results obtained from the qualitative dimension of the study. Teacher candidates reported that Computer I and Computer II courses were not sufficient. They passed the course that term by just preparing a video and that what is learned in these courses was outdated compared with the current conditions. They also stated that even primary school students took coding lessons today and were already behind them.

As technology becomes more widespread in today's society, students' need for expertise in digital technologies (computers, electronic whiteboards, GPS, etc.) has increased. More importantly, there is a need for students' ability to use technology to investigate, organize, evaluate, and transmit information. Teachers of the 21st century should

guide their students in technology-rich classes that offer more complex and diverse learning opportunities than traditional classrooms (Larson & Miller, 2011). In this respect, it is important to develop these skills in teacher training programs. Similarly, in the study where Çakır and Güngör (2017) evaluated foreign language teaching practices for children by teacher candidates according to 21st century teacher competencies, the findings show that teacher candidates have problems in decision making, problem-solving, and technology use skills. In addition, it has been found that the current course contents are not functional enough to train teachers in terms of 21st t century teacher competencies.

In a study conducted with 4th-grade elementary school teacher candidates studying at four different universities by Aktay (2016) on this subject, students' technology skills, knowledge, and other technology and teaching-related qualities should be used in teaching activities were analyzed. In this sense, "ISTE National Educational Technology Standards (NETS-T) and Performance Indicators for Teacher," one of the generally accepted technology standards, were used for the research. The results revealed that more than 70% of the teacher candidates considered themselves sufficient in most standards. However, some of the teacher candidates reported that they did not feel qualified enough to participate in local and global communities to explore the creative applications of technology, collaborate with community members and parents by using digital tools, and model collaborative work with students' co-workers and colleagues.

In parallel to this study's findings, 21st Century Student Profile (2011) research conducted by the Ministry of National Education (MONE) in Turkey gives some clues about the 21st century education system. In the present study, the scale was administered to students, teachers, and administrators. Some remarkable findings indicate that 65% of 10912 teachers that were administered the scale believed that "The Education System of Turkey is not as it should be in the globalization process." In addition, most of the teachers reported that students could not acquire universal values adequately (66%), personal differences between students were not taken into consideration (75%), critical thinking was not acquired sufficiently (77%), it did not lead students to research and questioning (approximately 80%), it did not provide students with the ability to solve the problems faced on their own (80%), and it did not provide students with the ability to make their own decisions (76%). Teachers also stated that education was not in international standards (85%) and that the values, goals, and what is taught in education should be reconsidered (85%) (MONE, 2011).

Hamarat (2019) stated that MoNE's 21st Century Student Profile creation work remains at a descriptive level and is not supported by case studies or action research. Reflecting on the competencies and skills targeted to be gained to students with curricula updated in 2018 in the curriculum is positive for Turkey. In addition, the Ministry has set some targets for 21st century skills directly in the 2023 Education Vision Document. Since the beginning of the century, Turkey has taken some very positive steps in this regard, but the whole system could not be realized due to the inability to cover the expected conversion. (Hamarat, 2019).

In another study, Clark (2008) evaluated teachers' integration in the process of technology integration in West Virginia suggested by Partnership21 based on 21st century skills. Regarding the use of technological tools like computers, internet, word processing programs, and e-mail services addressed in the study, more than 50% of the teachers stated that they used these tools in their daily lives. Still, they did not use them to create 21st century content. The factors that affect teachers' use of these tools in creating 21st century content are listed as lack of professional development in using the tools, lack of time, and personal interest. Similarly, most of the teachers participating in the study by Bernhart (2015) stated that they need professional development, including general pedagogical strategies focusing on subject area knowledge, motivation, participation, and creative evaluation strategies. In addition, although technology is a part of professional development, it has been found that teachers participating in the study do not have a sufficient understanding of the role of technology use in 21st century learning.

In line with this study's findings, Göksun (2016) analyzed teacher candidates' 21st century learner and teacher skills usage levels, and it was observed that teacher candidates used cognitive skills at a high level. It was also observed that teacher candidates used skills to solve real-life problems such as autonomous skills, collaboration, and flexibility skills at a mid-level. Furthermore, it was found that the lessons on technology knowledge in teacher training programs were insufficient. Unlike the findings of this study, in the study conducted by Çoklar (2008) with teacher candidates from seven different universities in Turkey, it was found that the teacher candidates' self-efficacy perceptions of educational technologies were high. In the study conducted by Şahin (2010) with teacher candidates at six different universities, it was found that approximately 60% of teacher candidates showed the characteristics of the new millennium students.

In the study conducted by Gürültü, Aslan, and Alcı (2019), it was found that secondary education teachers think that they have a high level of 21st century teacher skills. However, in the literature, studies on how teachers conceptualize these new skills and use them in classroom practices reveal some problems (Bernhardt, 2015). Most of the criticisms related to the teaching of 21st century skills are that there is no framework for applying these skills in lessons. There are uncertainties about how teachers and students will be evaluated through these skills throughout the year (Bernhardt, 2015).

Another finding of the study is that there is no significant difference in the teacher candidates' 21st century skills mean scores based on class level. This finding is highly thought-provoking. In general, the study's qualitative findings suggest that the program is not adequate to provide students with these skills. Only the 4th-grade teacher candidates participated in the qualitative study, and it was observed that they were more critical of the assessment. The qualitative findings have revealed that the methods and practices used in the social studies teacher training program are centered on lecturing, note-taking, and the use of textbooks. The data show that faculty members use more traditional teaching methods. These findings are in line with the findings of the study conducted by Ananiado and Claro (2009) on the curriculum of primary and secondary schools in Turkey. In this study conducted in OECD countries, basic learner skills acquired in every country's curriculum were revealed. According to the study, the curriculum of primary and secondary schools in Turkey aims to provide learners with critical thinking, creative thinking, communication, research, problem-solving, decision making, and information and communication technologies skills; however, it has been revealed that these skills are not used in the learning process. It is stated that there are no assessment policies or teacher training programs specifically oriented for these skills and competencies. In addition, in the acquisition of 21st century skills, the learning environment should be arranged in accordance with the skill transfer, and the measurement and evaluation approach should be appropriate. The fact that the learning environment is comfortable, flexible, and supports creativity will contribute greatly to skill-based development (Hamarat, 2019). It is also important that all teachers and teacher candidates accurately read and interpret assessment data (student portfolios, test scores, collaborative projects, etc.) and differentiate classroom practices correctly and appropriately (Miller, 2009). For this reason, awareness should be given to teachers and teacher candidates about measurement and evaluation of skills. Teacher education is a prerequisite for the success of all other reforms demanded in schools,

although it is only a component of what is required to enable high-quality teaching (Darling-Hammond, 2006). Teacher trainers need to be powerful models of simultaneous integration of 21st century skills to transfer these skills to their students. For this reason, teacher educators must constantly integrate new technologies into their lessons and stay up-to-date to develop their teaching and model these techniques for their students (Urbani, Roshandel, Michaels, & Truesdell, 2017).

Cuban (1991, cited in Russell, 2010) argues that despite the intensity of research requiring deep learning, passive learning is dominant in the social studies curriculum. He has concluded that drilling and memorization of facts dominated social studies during the 20th century. According to Cuban, many social studies teachers cannot understand the importance of how the content is taught and what is taught. According to him, teachers tend to believe the content is the same thing as the way the content is taught. Henke, Chen, and Goldinan (1999) conducted a national study on the teaching practices of secondary school social studies teachers. The study's findings revealed that, especially in secondary school social studies, teachers were less likely to use alternative teaching methods instead of whole group instruction compared to teachers in other fields. In the study, it was also found that most of the social studies teachers (91%) asked questions that required remembering and that only a small part (38%) conducted student-led discussions on a weekly basis. In the study, most social studies teachers reported that they relied on the textbook for content knowledge. It was also found that most of the teachers wanted students to read from the textbook in the classroom (94%) and outside (95%). In addition, 95% of the social studies teachers reported that they used technology weekly; however, it was revealed that this "technology" was limited to the whiteboard and the overhead projector. Similarly, the findings of the studies carried out by Ilter (2017) and Russell (2010) on how social studies are taught in the 21st century show that teachers are more inclined to promote passive learning but less prone to active learning. The findings of Russell's (2010) study suggest that students are not productive and do not need to think critically or solve problems most of the time. Critical thinking and other decision-making skills are crucial for successful social studies education. According to Engle (2003), critical thinking and decision making are the heart of social studies education. It is also revealed that 90% of the participants use the instruction method about half of the social studies course time or more, that most of the time is spent on note-taking, and that teachers prefer textbooks as their primary source of information. These results are in line with Cuban's (1991) findings. The findings of these

studies show that there is a gap between theory and practice. Although the purpose of social studies teachers is to make students effective citizens of the 21st century, it is interpreted that social studies teachers do not maximize their potential to achieve this goal. The findings of this study revealed that the same problems still exist in teacher education, as in primary and secondary education.

Recommendations

The lack of interesting and meaningful learning opportunities in social studies is a major shortcoming. Providing students with a range of learning experiences and ample opportunities for critical thinking is a key element in designing good and influential 21st century citizens who can actively contribute to modern society. While planning the teaching and learning processes of social studies, teacher candidates, courses that cover 21st century skills, and are based on learning environments should be included. Teacher educators' educational experiences should be a model for teacher candidates to use their 21st century skills. Teacher educators need to understand the importance of how the content is taught as well as what is taught. In particular, teacher education programs should include a detailed program and assessments aimed at these skills and competencies.

In conclusion, all these skills can only be put into practice if teachers and students find them valuable and relevant to their teaching and learning experience. Teacher education programs play a key role in this. In particular, teacher candidates need to be educated on how to help their students develop these skills and be provided with incentives and resources to be convinced of these skills' value and allow them sufficient time.

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