

# An Investigation of Prospective Teachers' and Teacher Trainers' 21st Century Skills Awareness\*

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## Makale Bilgileri

## ÖZ

### Makale Geçmişi

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21. yüzyıl,  
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İngilizce öğretmen adayları,  
İngilizce öğretmen eğiticileri.

Bu çalışma, İngilizce öğretmen adaylarının ve İngilizce öğretmen eğiticilerinin 21. yüzyıl becerileri farkındalık düzeylerini ve katılımcıların 21. yüzyıl becerileri farkındalıklarına ilişkin algılarını incelemeyi amaçlamaktadır. Çalışma karma yöntem araştırma deseninde, 2022-2023 eğitim-öğretim yılında Necmettin Erbakan Üniversitesi İngiliz Dili Eğitimi bölümünde öğrenim gören 167 3. ve 4. sınıf İngilizce öğretmen aday ve Necmettin Erbakan Üniversitesi İngilizce Öğretmenliği bölümünde görev yapan 8 (tamamı) İngilizce öğretmen eğiticisi ile yürütülmüştür. Çalışmanın nicel verilerini toplamak için “Öğretmen Adayları İçin 21. Yüzyıl Becerileri Yeterlik Algıları Ölçeği”, çalışmanın nitel verilerini toplamak için yarı yapılandırılmış röportaj soruları kullanılmıştır. Röportajlar, amaç doğrultusunda seçilmiş 20 İngilizce öğretmen aday ve rastgele seçilmiş 4 İngilizce öğretmen eğiticisi ile çevrimiçi olarak gerçekleştirilmiştir. Nicel veriler SPSS 26.0 paket programı kullanılarak, nitel veriler ise içerik analizi yöntemi kullanılarak analiz edilmiştir. Nicel sonuçlar, İngilizce öğretmen adaylarının ve İngilizce öğretmen eğiticilerinin 21. yüzyıl becerileri farkındalık düzeylerinin orta düzeyde olduğunu göstermiştir. Nitel sonuçlar ise İngilizce öğretmen adaylarının 21. yüzyıl becerilerine sahip olmanın önemli olduğunu düşündüklerini, İngiliz Dili Eğitiminde en etkili becerinin iletişim olduğunu, kendilerini çoğunlukla yeterli gördüklerini ve kendilerini en çok sosyal ortamlarda geliştirdiklerini; İngilizce öğretmen eğiticilerinin ise 21. yüzyıl becerilerine sahip olmanın önemli olduğunu düşündüklerini, İngiliz Dili Eğitiminde en etkili becerinin eleştirel düşünme olduğunu, yarısının kendisini yeterli görürken diğer yarısının geliştirmeye ihtiyaç duyduğunu ve kendilerini en çok mesleki eğitimlere katılarak ve okuyarak geliştirdiklerini göstermiştir.

## Öğretmen Adaylarının ve Öğretmen Eğiticilerinin 21. Yüzyıl Becerileri Farkındalıklarının İncelenmesi

### Article Info

### ABSTRACT

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#### Keywords:

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This study aims to investigate prospective teachers of English' (PTE) and teacher trainers of English' (TTE) 21st century skills awareness levels, and to examine participants' perceptions on their 21st century skills awareness. It was carried out in a mixed method research design, and it was conducted with 167 3rd and 4th-grade PTEs studying at Necmettin Erbakan University Department of English Language Teaching (ELT) in the 2022-2023 academic year, and 8 (all) TTEs working at Necmettin Erbakan University Department of ELT. '21st Century Skills Efficiency Perceptions Scale for Teacher Candidates' was used to collect the quantitative data and a semi-structured interview was used to collect the qualitative data of this research study. Interviews were conducted online with 20 purposefully selected prospective teachers of English and 4 randomly selected teacher trainers of English. The quantitative data were analysed using the SPSS 26.0 package program while the qualitative data were analysed using the content analysis method. Quantitative results showed that the 21st century skills awareness levels of PTEs and TTEs were moderate. The qualitative results showed that the PTEs think having 21st century skills is important, the most effective skill in ELT is communication, they mostly consider themselves sufficient, and they improve themselves mostly in social environments. Besides, TTEs think having 21st century skills is important, the most effective skill in ELT is critical thinking, half of them consider themselves sufficient while the other half consider themselves in need of improvement, and they improve themselves mostly by attending vocational training and reading.

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**INTRODUCTION**

In the 21st century, the characteristics expected from individuals have changed as a result of advancements in science, technology, the economy, and politics (Cansoy, 2018; Wagner, 2010). As digital technologies have become widespread and used on a global scale, concepts such as the internet of things (IoT), robotics and artificial intelligence have brought about a great change and transformation process in social, economics, health and education fields (Işıkçı & Çoklar, 2022). Creativity, critical thinking, communication and collaboration, innovation, productivity, flexibility and adaptability, problem-solving, initiative and self-direction, self-efficacy, metacognition, planning, information-media and technology literacy (Ciğerci, 2020), self-regulation, reasoning (Ahonen & Kinnunen, 2014), collaborative and complex problem solving, digital information literacy (Geisinger, 2016), information and communication technology (ICT) literacy (Ainley et al., 2016), global citizenship, global awareness, responsibility, leadership, citizenship literacy, decision making, lifelong learning (Koçak & Göksu, 2020) have become categorised among the 21st century skills that students need in an educational setting. The skills of the 21st century are not only knowledge or skill alone; they also include performance, comprehension, and knowledge (Kan & Murat, 2018). Therefore, in the century we currently live, it is essential for everyone to possess these abilities in order to adapt to life in general.

Various institutions and organizations have identified and categorized the 21st century skills in different ways like Partnership for 21st Century Skills (P21), EnGauge North Central Regional Educational Laboratory 21st century skills (NCREL), Assessment & Teaching of 21st Century Skills (ATCS), The American National Research Council (NRC), International Society for Technology in Education (ISTE), The Organization for Economic Cooperation and Development (OECD), The Asian Society, Tony Wagner’s Framework of 21st Century Skills, and Ministry of National Education (MONE). In this respect, the P21 Framework basically, which is taken as a basis in this research study since it is the one that is accepted commonly, and the other 21st Century Skills Frameworks accepted in the literature are examined and compared below (See Table 1).

**Table 1.** Comparison of 21st Century Skills Classifications.

FRAMEWORKS	DOMAINS	CLUSTERS OF COMPETENCIES
The Partnership for 21st Century Skills (P21, 2019)	Life and Career Skills	Flexibility and adaptability, leadership and responsibility, productivity and accountability, initiative and self-direction
	Learning and Innovation Skills	Critical thinking, problem-solving, communication, collaboration, creativity, innovation
	Information, Media, and Technology Skills	Information literacy, media literacy, information and communication technology literacy
Organisation for Economic Cooperation and Development (OECD, 2018)	Knowledge	Disciplinary knowledge, interdisciplinarity knowledge, epistemic knowledge, procedural knowledge
	Skills	Cognitive and meta-cognitive skills, practical and physical skills, social and emotional skills
	Attitudes and Values	Personal values, social values, societal values, human values
International Society for Technology in Education (ISTE, 2016)	Empowered Learner	Setting and reaching learning goals, creating unique learning environments, using technology in learning environments
	Global Collaborator	Working and collaborating with local and global teams, using digital tools to enrich their learning
	Creative Communicator	Expressing oneself creatively using different sources
	Computational Thinker	Using technology for problem-solving and strategy development
	Innovative Designer	Using various technologies to identify and solve problems in a design process by creating new, useful, or creative solutions
	Knowledge Constructor	Constructing knowledge, creating creative works, critical thinking

**Table 1. (Cont.) Comparison of 21st Century Skills Classifications.**

FRAMEWORKS	DOMAINS	CLUSTERS OF COMPETENCIES
International Society for Technology in Education (ISTE, 2016) (Cont.)	Digital Citizen	Living in an interconnected digital world, recognizing learning and working rights, responsibilities and opportunities, acting safely, legally and ethically
The American National Research Council (NRC, 2011)	Cognitive Competency	Technical knowledge, problem-solving, critical thinking
	Interpersonal Competency	Appreciation for diversity, social skills, teamwork and collaboration, intellectual openness, complex communication
	Intrapersonal Competency	Self-regulation, self-management, self-improvement, time management, flexibility, executive functioning
The Asian Society (Soland et al., 2013)	Cognitive Competencies	Academic mastery, creativity, critical thinking
	Interpersonal Competencies	Global awareness, leadership, communication and collaboration
	Intrapersonal Competencies	Learning how to learn, intrinsic motivation, growth mindset
EnGauge North Central Regional Educational Laboratory (Lemke, 2002)	Digital-Age Literacy	Information literacy, scientific literacy, economic literacy, basic literacy, visual literacy, multicultural literacy, technological literacy, global awareness
	Inventive Thinking	Adaptability, managing complexity, risk-taking, self-direction, creativity, curiosity, higher-order thinking, sound reasoning
	Effective Communication	Teaming and collaboration, social and civic responsibility, personal responsibility, interpersonal skills, interactive communication
	High Productivity	Planning, prioritizing, managing for results, ability to produce relevant and high-quality products, effective use of real-world tools
Assessment & Teaching of 21st Century Skills Framework (Scardamalia et al., 2010)	Ways of Thinking	Creativity and innovation, problem-solving and decision making, metacognition, learning to learn, critical thinking,
	Ways of Working	Collaboration and Communication
	Tools for Working	Information literacy, informational and communication technology literacy
	Living in the World	Life and career skills, global and local citizenship, personal and social responsibility including cultural awareness and competence
Tony Wagner's Framework (Wagner, 2010)	Critical Thinking and Problem Solving	Questioning the accuracy of information
	Collaboration Across Networks and Leading by Influence	The need for leadership and the ability to work together
	Agility and Adaptability	Using different tools for problems, working in harmony
	Initiative and Entrepreneurship	Taking risks and initiative when necessary
	Effective Oral and Written Communication	Expressing oneself correctly in oral and written communications
	Accessing and Analyzing Information	Reusing the information in a creative way thanks to imagination
American Association of Colleges & Universities (AACU, 2007)	Curiosity and Imagination	Empathy, productivity and imagination
	Cultural, Physical and Natural World Knowledge	Science, social sciences, humanities, mathematics, history, language, and arts
	Intellectual and Practical Skills	Inquiry and analysis, written and verbal communication, critical and creative thinking, information literacy, digital literacy, problem-solving, and teamwork
	Personal and Social Responsibilities	Foundations and skills for civics, intercultural knowledge and competence, lifelong learning, ethical reasoning and behaviour
	Holistic Learning	Synthesizing and making progress

**Table 1. (Cont.) Comparison of 21st Century Skills Classifications.**

FRAMEWORKS	DOMAINS	CLUSTERS OF COMPETENCIES
Ministry of National Education 21st Century Skills (MEB, 2017)	Communication in Mother Tongue	The ability to communicate effectively using written, verbal and non-verbal communication tools
	Communication in Foreign Languages	The ability to recognize cultural elements and language diversity, understand oral and written messages, understand what is read, respect cultural diversity, be curious and interested in language learning
	Math Proficiency	The ability to know mathematical theories, measurements, formulas, understanding and using mathematical terms, apply basic mathematical formulas in daily life, develop a positive attitude towards mathematics
	Science and Technology Proficiency	The ability to ask questions to understand natural life, comprehend the impact of science and technology on natural life, comprehend the features of scientific inquiry, establish cause and effect relationships
	Digital Proficiency	The ability to research, question the reliability of the information presented, use the necessary tools for cultural, social and professional purposes
	Learning to Learn	The ability to know their own learning strategies and strengths/weaknesses, acquire self-discipline and independent study skills, evaluate their own learning, develop problem-solving skills, and benefit from their own previous learning and experiences
	Perception of Initiative and Entrepreneurship	The ability to recognize opportunities, work individually and as a group, take risks, assess the situation, take initiative and think innovatively, and be determined to achieve goals
	Social and Public Proficiency	The ability to know basic concepts related to society and culture, be aware of and respect cultural diversity, empathize, cooperate, avoid conflicts, follow current developments, and deal with the solution of problems that concern the society
	Cultural awareness and expression	The ability to be aware of local, national and international cultural heritage, have knowledge of cultural studies and popular culture, be aware of cultural and linguistic diversity, participate in cultural life

Having a clear categorisation of the 21st century skills and comprehension of the need to have them to survive in the new era, nowadays, providing students with these 21st century skills has become one of the topics on the agenda undoubtedly. In order to bring in these skills, countries have been changing their educational programs and curricula to match the demands and requirements of the 21st century. In determining education programs, economic and political conditions, scientists, educators, students, parents, and society have important places (Kaleci & Cihangir, 2019) because the education policies of societies that want to participate in the global race aim to raise the needed human profile (Tosik-Gün & Güyer, 2019). What's more, many studies have been focusing on the 21st century skills and its awareness to provide sound basis, data and for the development of education to meet the objectives the new era has brought. Reviewing the literature, many studies have been identified on the 21st century skills awareness. In some studies that revolve around the secondary school context, it was concluded that the eighth-grade students of secondary school had a high level of 21st century skills in science education, there was a significant difference between the 21st century skill levels of the students and their gender, and this difference was in favour of female students (Karakaş, 2015), students had higher levels of 21st century learning skills and female students had higher scores than male

students (Bozkurt & Çakır, 2016), students had high perceptions of 21st century learning skills and learning to learn, problem-solving, cooperation and communication skills, their active learning skills were moderate, female students perceived 21st century learning skills at a higher level than male students, and 7th-grade students perceived 21st century learning skills at a higher level than 6th and 8th-grade students (Önür & Kozikoğlu, 2019), gifted students had higher 21st century skills than students with normal development (Nacaroğlu, 2020).

In a research study within the high school context, it was concluded that the students' use of the 21st century learner skills were above the medium level, the use of these skills differed significantly according to their grade levels and educational purposes, and the 21st century skills usage level scores of 11th and 12th-grade students were found to be higher than the 9th and 10th grade-students (Zeybek, 2019).

At the tertiary level, it was concluded that undergraduate students studying in the English Language and Literature department were conscious of 21st century skills and most of them use the 21st century skills in their lives (Irgatoğlu & Pakkan, 2020). In the studies conducted to determine the 21st century skills of the students studying at the education faculties of the universities and the preservice teachers, there was a statistically significant difference in the perceptions of the prospective teachers about lifelong learning competencies according to the gender and the department they study (Evin-Gencil, 2013), teaching skills varied greatly depending on the department, academic success, private lesson experience, teaching practice, and gender (Tican & Deniz, 2018), prospective teachers had a level of agreement with the sub-dimensions of 21st century skills that is higher than moderate (Kan & Murat, 2018), pre-service teachers who received pedagogical formation education had 21st century skills at a sufficient level, and there were no significant difference between 21st century skills in terms of gender and department they study (Erten, 2019), and that digital storytelling helped primary school teacher candidates develop their 21st century competencies (Cığerci, 2020).

In the studies conducted to determine the 21st century skills of pre-service teachers studying in the ELT departments of universities, it was concluded that although the perceptions of pre-service English teachers about 21st century learning were quite positive, they believed that the 4C awareness level was moderate and they believed that the 4C had positive effects on their professional development (Bedir, 2019). English teacher candidates found themselves competent in the titles of 'Intercultural Skills', 'Learning and Innovation Skills', 'Career Skills' and 'Life Skills', they cared about having them, and they thought that the education they received was insufficient in gaining 21st century skills (Aydın Tan-Şişman, 2021), project-based learning practice helped English teacher candidates develop their 21st century skills and project-based learning improved their 21st century skills (Fatmawati, 2018), English teacher candidates did not have a clear understanding of what 21st century skills were, but they still had a very positive attitude towards integrating 21st century skills into foreign language lessons and it was necessary to raise awareness of foreign language teachers about using and teaching 21st century skills in their classrooms (Baran-Łucarz & Klimas, 2020).

In the studies conducted on the teachers, it was concluded that the teachers working in primary schools offered more supportive learning environments for their students' learning when they have positive attitudes towards the 21st century skills (Anagün, 2018). Teachers consider themselves as 'high level' when their levels of self-efficacy perception of the 21st century skills were examined, and their perceptions of the 21st century skills proficiency did not differ according to educational status, gender and professional seniority (Cemaloğlu et al., 2019). Teachers working in secondary schools thought that their 21st century teaching skills were at a high level, that there was no difference in terms of gender and years of seniority in their use of the 21st century teaching skills, and that the use of the 21st century teaching skills differed in some dimensions according to the faculty they graduated from (Gürültü et al., 2019).

In the studies conducted on English teachers, it was concluded that teachers were aware of the importance of including critical thinking skills in their lessons but they were not supported in the application phase (Tuzlukova et al., 2018), teachers had positive attitudes towards both 21st century skills and using technological tools in their teaching (Şahin & Han, 2020), the development of teachers' perspectives on educational technology and material development competencies related to the 21st century skills was possible with strategy training (Yeni & Can, 2022), teachers' potential to integrate 21st century skills into the classroom was related to their knowledge about skills (Mehdaoui & Benabed, 2022).

Although there have been many studies on the 21st century skills and awareness, with a need for an extensive study combining TTEs' and PTEs' 21st century skills awareness, the present study was conducted. Aiming to investigate the 21st century skills awareness levels of PTEs and TTEs, the study seeks answers to the following research questions:

1. Are the PTEs aware of the 21st century skills?
2. Are the TTEs teaching in ELT Department aware of the 21st century skills?
3. What are the perceptions of the participants about their awareness on the 21st century skills?

**METHOD**

**Research Design**

The present study employs a mixed-method research design using both qualitative and quantitative methods in a single study (Creswell, 1999). First, the quantitative data is collected by using a scale, then a semi-structured interview is used to verify the results obtained through the quantitative one.

**Participants**

This research study was conducted with 175 voluntary participants: there are 167 PTEs studying in Necmettin Erbakan University at the Department of English Language Teaching in the 2022-2023 academic year (See Table 2.), and 8 (all) TTEs currently working in Necmettin Erbakan University at the department of English Language Teaching (See Table 3.).

Table 2. and Table 3. display the frequency and percentage values in relation to the demographic characteristics of the prospective teachers of English, and teacher trainers of English who took part in this study. The demographic information is presented with the intent to provide background of the participants.

**Table 2. Frequency and Percentage Values of PTEs by Sociodemographic Characteristics.**

VARIABLES		FREQUENCY (N)	PERCENTAGE (%)
Gender	Male	53	31,7
	Female	114	68,3
	Total	167	100
Age	19	4	2,4
	20	28	16,8
	21	72	43,1
	22	34	20,4
	23+	29	17,4
	Total	167	100
Grade	3rd Grade	63	37,7
	4th Grade	104	62,3
	Total	167	100
Graduation	Anatolian High School	120	71,9
	Anatolian Imam Hatip High School	20	12
	Science High School	5	3
	Social Sciences High School	2	1,2
	Vocational and Technical High School	6	3,5

**Table 2. (Cont.) Frequency and Percentage Values of PTEs by Sociodemographic Characteristics.**

VARIABLES		FREQUENCY (N)	PERCENTAGE (%)
Graduation (Cont.)	Others	14	8,4
	Total	167	100
Monthly Income Level (₺)	0-999	83	49,7
	1000-2999	55	32,9
	3000-5999	20	12
	6000+	9	5,4
	Total	167	100

**Table 3. Frequency and Percentage Values of TTEs by Sociodemographic Characteristics.**

VARIABLES		FREQUENCY (N)	PERCENTAGE (%)
Gender	Male	2	25
	Female	6	75
	Total	8	100
Age	35-44	5	62,5
	45-54	3	37,5
	Total	8	100
Years of Experience	6-10	1	12,5
	11-15	2	25
	16-20	2	25
	21-25	2	25
	26+	1	12,5
	Total	8	100
Degree	MA	1	12,5
	Ph.D.	7	87,5
	Total	8	100
Numbers of Course Given Related to 21st Century Skills	1	5	62,5
	3	3	37,5
	Total	8	100

### Research Instruments and Processes

To collect quantitative data, “21st Century Skills and Competences Scale” developed by Anagün et al. (2016) (Cr. .91 for the present study) was administered to measure participants’ awareness levels of the 21st century skills by taking the necessary permission. The scale consists of 42 items and has 3 sub-dimensions as “*Learning and Renewal Skills*”, “*Life and Career Skills*”, and “*Knowledge, Media and Technology Skills*”. Items in the scale were applied in a five-point Likert structure (“*Always. (5)*”- “*Never. (1)*”). After reaching the desired number of participants in the quantitative data collection process, the researcher conducted a semi-structured interview with 4 randomly chosen TTEs who are training in the Department of English Language Teaching and 20 purposefully chosen PTEs based on their scale scores in order to learn more about their awareness on 21st century skills. This interview which was adapted (Bedir, 2019) in light of the findings of the questionnaire was conducted in order to get further and in-depth information. The interview questions were prepared, checked, and finalised under the guidance of field experts in line with the research questions of the study. When data saturation was reached, the process finished. Data collection provided both quantitative and qualitative findings.

### Data Analysis

The IBM SPSS 26 program was used to analyse the data that were gathered for the study, and it was checked to see if the scale had a reverse item. It was seen that just Item 27 was reversed. No missing value was

seen when the program checked the presence of missing data. A normality test was used after the scores gathered were checked for reliability (Cr. .91). Having a normal distribution and being reliable, the data was analysed thoroughly. To obtain the quantitative results of the study, median, percentage, and frequency analysis were assessed depending on the variable by SPSS 26.0 package program.

For the qualitative part of the study, PTEs who were below and above the median were identified after a ranking was generated based on the outcomes from the scale utilized in the earlier stage. As a result, four separate groups of PTEs were formed: the first group consisted of 3rd grade PTEs whose scale scores were below the median, the second group consisted of 3rd grade PTEs whose scale scores were above the median, the third group consisted of 4th grade PTEs whose scale scores were below the median, and the fourth group consisted of 4th grade PTEs whose scale scores were above the median. Qualitative data were analyzed through the use of the content analysis technique, which organizes the collected data so that concepts can be articulated and then investigates the relationships between these concepts, (Yıldırım & Şimşek, 2016). The findings were grouped into two categories as themes and sub-themes for each participant group.

**Ethics**

This research study is ethically approved by Social and Human Sciences Scientific Research and Publication Ethics Committee of Necmettin Erbakan University (2022/322,12.09.2022).

**FINDINGS**

**Quantitative Findings**

*Findings on PTEs' Awareness Levels on their 21st Century Skills*

Table 4. provides the frequency and percentage values of PTEs' awareness levels of their 21st century skills by median (See Table 4.).

**Table 4. Frequency and Percentage Values of PTEs' Awareness Levels on Their 21st Century Skills by Median.**

		<b>FREQUENCY (N)</b>	<b>PERCENTAGE (%)</b>
PTEs' Levels of Their Awareness on 21st Century Skills	High	79	47,3
	Low	88	52,7
	Total	167	100

Table 4. presents the awareness levels of PTEs participating in the research on their 21st century skills. It is seen that while 79 (47,3%) PTEs have a high level of 21st century skills awareness, the remaining 88 (52,7%) PTEs have a low level of 21st century skills awareness (m=168) when the data was analysed by taking the median as a basis.

*Findings on TTEs' Awareness Levels on their 21st Century Skills*

Table 5. provides the frequency and percentage values of TTEs' awareness levels of their 21st century skills by median (See Table 5.).

**Table 5. Frequency and Percentage Values of TTEs' Awareness Levels on Their 21st Century Skills by Median.**

		<b>FREQUENCY (N)</b>	<b>PERCENTAGE (%)</b>
TTEs' Levels of Their Awareness on 21st Century Skills	High	3	37,5
	Median	2	25
	Low	3	37,5
	Total	8	100

Table 5. presents awareness levels of TTEs participating in the research on their 21st century skills. It is seen that 3 (37,5%) TTEs had a high level of 21st century skills awareness, 2 (25%) TTEs had the same score as the median, and the remaining 3 (37,5%) TTEs had a low level of 21st century skills awareness (m=186) when the data was analyzed by taking the median as a basis.



**Qualitative Findings**

**Findings on PTEs' Perceptions about their Awareness on the 21st Century Skills**

The findings obtained from the interview were divided into two categories as themes and sub-themes. There are 4 main themes and 13 sub-themes for PTEs. Table 6. presents the main themes (See Table 6.).

**Table 6. Main Themes on PTEs' Perceptions about Their Awareness on the 21st Century Skills.**

PARTICIPANTS	THEME NUMBER	THEME NAME
PTEs	P1	The significance of 21st century skills in ELT
	P2	The most effective 21st century skills in ELT
	P3	Self-awareness on 21st century skills
	P4	Personal development in 21st century skills

**P1. The Significance of the 21st Century Skills in ELT**

"How important do you think the 21st century skills are in English Language Teaching?" was Question 1 in the semi-structured interview. Sub-themes related to the replies of PTEs are presented below (See Table 7.).

**Table 7. Sub-themes Regarding PTEs' Responses on the Significance of the 21st Century Skills in ELT.**

	SUB-THEMES	N	%
Important		20	100
Total		20	100

All PTEs (100%) who took part in this study think that the 21st century skills are 'Important' in ELT. Below, the opinions of PTEs reflecting this situation are presented:

"I think they are extremely important. Especially in the field of teaching, new methods and new approaches are constantly being developed both technologically and educationally. ... If we want to be good teachers, we need to be ready to adapt to 21st century skills as quickly as possible because there is a constantly evolving world, a constantly evolving technology. And if we want to perform our profession well, we must keep up with these changes." (PTE3)

"21st century skills are of great importance not only in English Language Teaching but also in the teaching of all languages, because we, as prospective teachers, contribute to the upbringing of a generation. The more critically we can impart knowledge to our students, the more our students learn and apply it." (PTE5)

**P2. The Most Effective 21st Century Skills in ELT**

"What do you think are the most effective skills here?" was Question 2 in the semi-structured interview. Sub-themes related to the replies of PTEs are presented below (See Table 8.). Some PTEs stated their opinions related to more than one sub-theme.

**Table 8. Sub-themes Regarding PTEs' Responses on the Most Effective 21st Century Skills in ELT.**

	SUB-THEMES	f	%
4C Skills	Communication Skills	12	60
	Collaboration Skills	10	50
	Critical thinking Skills	10	50
	Creativity Skills	8	40
	Information, Media and Technology Literacy (ICT) Skills	6	30
	Entrepreneurship Skills	1	5
	All connected to each other, not separable	1	5
	Total	20	100

'Communication Skills' was mostly emphasized among other 21st century skills. And, it was followed respectively by 'Collaboration Skills' 'Critical Thinking Skills', 'Creativity Skills' and 'Information, Media and Technology Literacy Skills'. Below, the opinions of PTEs reflecting this situation are presented:

"I think the most effective 21st century skill is communication because we know that English is the world language and one of the biggest reasons why we learn this language is to be able to communicate both with each other and with the world. In this sense, I think we need 'communication skills' to have full proficiency in this language and to give this proficiency to our students." (PTE16)

*"I think collaboration because children, especially young children, learn better by communicating and collaborating with their peers. In other words, language acquisition is easier when social relations are strong. And since they are children of their own level, they learn better by looking at each other, talking to each other."* (PTE20)

*"I think critical thinking is important because we need to think critically so that we can improve ourselves."* (PTE8)

*"...We cannot use 21st century skills much, but I think the most important ones are collaboration and creativity. I am not someone who can think and produce many new and different ideas, but if I had such skills, my academic life would have progressed more easily for me."* (PTE7)

*"The most important of these skills for me is technology literacy because I prefer individual learning more, I can access up-to-date information faster, and I also try to use this skill as much as possible in my Teaching Practice course."* (PTE19)

One PTE (5%) thinks that 'All 21st century skills are connected to each other, they are not separable'. Below, the opinion of the PTE reflecting this situation is presented:

*"In my opinion, there is no such thing as the most effective. If there was such a thing as the most effective, we would only talk about it, we would not give it as a 4C. I think they all have a connection to each other, so none of them can be used separately from each other."* (PTE6)

### **P3. Self-awareness on the 21st Century Skills**

*"Do you find yourself sufficient in terms of your individual awareness of 21st century skills?"* was Question 3 in the semi-structured interview. Sub-themes related to the replies of PTEs are given below (See Table 9.).

**Table 9.** Sub-themes Regarding PTEs' Responses on Their Self-awareness on the 21st Century Skills.

SUB-THEMES	N	%
Sufficient	13	65
Insufficient	7	35
Total	20	100

13 PTEs (65%) who took part in this study find themselves 'Sufficient' in terms of their individual 21st century skills awareness. Below, one of the opinions of PTEs reflecting this situation is presented:

*"... Although 21st century skills are a very broad subject, many skills complement each other so I can't separate them, I think my awareness is sufficient."* (PTE12)

7 PTEs (35%) who took part in this study find themselves 'Insufficient' in terms of their individual 21st century skills awareness. Below, one of the opinions of PTEs reflecting this situation is presented:

*"I am not fully sufficient because, when I think about myself, I don't remember ever being guided on this subject and I don't think there were many lectures on this subject."* (PTE9)

### **P4. Personal Development in the 21st Century Skills**

*"How did/do you improve yourself?"* was Question 4 in the semi-structured interview. Below presented the sub-themes related to the replies of PTEs (See Table 10.). Some PTEs stated their opinions related to more than one sub-theme.

**Table 10.** *Sub-themes Regarding PTEs' Responses on Their Personal Development in the 21st Century Skills.*

SUB-THEMES	f	%
Social exchange	26	130
Making use of technology in terms of theory and practice	12	60
Lack of personal development	4	20
Total	20	100

'Social Exchange' sub-theme was the mostly emphasized among other sub-themes by 26 replies. And it was followed by 'Making use of technology in terms of theory and practice'. Below, some selected responses of PTEs are presented:

*"I think I develop myself by communicating with people. .... Coaching by some of our teachers at the university, my own experiences and my friend environment have improved me. ... The university offered me different perspectives as I acculturated with people from other parts of Turkey in this environment. That is the reason I can say 'I saw 21st century skills practically, not by opening a book.'. Moreover, I have a group of friends with whom we make movies and book critiques. This is perhaps one of the most important reasons why I am creative, self-confident, self-respecting, and self-directed, and questioning and understanding whether a piece of information is true or false. Thanks to the movie critiques we made, I can see that my creativity has improved, and I can see things from different perspectives. ..."* (PTE4)

*"Especially Instagram helps me in this regard because there are some teachers who shoot videos in their classes at the primary and secondary school levels. They show sample materials, we can see how they use them in their classrooms, and how their classroom management is. ..."* (PTE12)

'Lack of personal development' was the least emphasized sub-theme among other sub-themes by 4 replies. Below, one of the opinions of PTEs is presented:

*"I cannot say that I have a lot of opportunities to improve myself about these skills outside of school because I am mostly at home. Compared to campus life, we entered a much more stagnant period in terms of communication. After the earthquake happened in Turkiye, almost all students are in their homes. Therefore, we can say that we have a communication interruption."* (PTE3)

### **Findings on TTEs' Perceptions about their Awareness on the 21st Century Skills**

The findings obtained from the interview were divided into two categories as themes and sub-themes. There are 4 main themes and 18 sub-themes for TTEs. Table 11. presents the main themes (See Table 11.).

**Table 11.** *Main Themes on TTEs' Perceptions about Their Awareness on the 21st Century Skills.*

PARTICIPANTS	THEME NUMBER	THEME NAME
TTEs	T1	The significance of 21st century skills in ELT
	T2	The most effective 21st century skills in ELT
	T3	Self-awareness on 21st century skills
	T4	Personal development in 21st century skills

#### **T1. The Significance of the 21st Century Skills in ELT**

"How important do you think 21st century skills are in English Language Teaching?" was Question 1 in the semi-structured interview. Below presented the sub-themes related to the replies of TTEs (See Table 12.).

**Table 12.** *Sub-themes Regarding TTEs' Responses on the Significance of the 21st Century Skills in ELT.*

SUB-THEMES	N	%
Important	4	100
Total	4	100

All TTEs (100%) who took part in this study think that 21st century skills are 'Important' in ELT. Below, one of the opinions of TTEs reflecting this situation is presented:

*“English Language Teaching department covers both language education and teacher training. ... Today, very rapid changes are taking place. For example, a new technological tool is introduced every day. ... Literacy skills are very important. One of the most important concepts right now is digital literacy. Therefore, in general, our program should include the intersection of learning skills, literacy skills, and life skills, as it is part of real life. ... Apart from these, we cannot separate culture from any of them, and that is part of it. Therefore, when we consider all these, I think 21st century skills are very important to raise individuals who have language literacy, pedagogical literacy, digital literacy, and cultural literacy, and who are also accustomed to lifelong learning.” (TTE2)*

**T2. The Most Effective 21st Century Skills in ELT**

*“What do you think are the most effective skills here?”* was Question 2 in the semi-structured interview. Sub-themes related to the replies of TTEs are presented below (See Table 13.). Some TTEs stated their opinions related to more than one sub-theme.

**Table 13.** Sub-themes Regarding TTEs' Responses on the Most Effective 21st Century Skills in ELT.

SUB-THEMES		f	%
4C Skills	Motivation	1	25
	Communication Skills	1	25
	Collaboration skills	1	25
	Critical Thinking Skills	3	75
	Creativity Skills	2	50
	Analysis and Synthesis Skills	2	50
	Life and Career Skills	2	25
	Learning and Innovation Skills	2	50
	Information, Media, and Technology Literacy (ICT) Skills	2	50
	Problem-solving Skills	2	50
	Risk-taking Skills	1	25
	Productivity Skills	1	25
	Total	4	100

*‘Critical Thinking Skills’* was mostly emphasized among 21st century skills by 3 replies, it was followed by *‘Creativity Skills’*, *‘Analysis and Synthesis Skills’*, *‘Life and Career Skills’*, *‘Learning and Innovation Skills’*, *‘ICT Literacy Skills’*, and *‘Problem-solving Skills’* by 2 replies for each. *‘Motivation’*, *‘Communication Skills’*, *‘Collaboration Skills’*, *‘Risk-taking Skills’*, and *‘Productivity Skills’* were the least emphasized skills by 1 reply for each. Below, the opinions of TTEs reflecting this situation are presented:

*“Depending on the environment, problem-solving, risk-taking, and productivity skills gain importance. We need to produce solutions according to the problem, we live by taking risks for the future, and we need to add a difference to the things produced. An accurate perception of what is produced also requires media literacy. I think that critical thinking encompasses all of these because it requires skills such as analyzing the given information.” (TTE1)*

*“Since I am an educator, and touch on the teaching dimension, I want to address learning skills. ... Critical thinking, creativity, and problem-solving skills are required, especially in the teaching phase. Communication is also very important. It is now very important to act collectively as well as individualization. Group work is one of the points we care about, especially in classrooms. Students should also develop their collaboration skills. ... If I had to choose one, I would say problem-solving. Because it is necessary to be able to produce different solutions from time management to the problem encountered in social life.” (TTE3)*

### T3. Self-awareness on the 21st Century Skills

“Do you find yourself sufficient in terms of your awareness of the 21st century skills?” was Question 3 in the semi-structured interview. Sub-themes related to the replies of TTEs are given below (See Table 14.).

**Table 14.** Sub-themes Regarding TTEs' Responses on Their Self-awareness on the 21st Century Skills.

SUB-THEMES	N	%
Sufficient	2	50
Can be improved	2	50
Total	4	100

Half of the TTEs (50%) who took part in this study find themselves ‘Sufficient’ in terms of their individual 21st century skills awareness, and the other half of the TTEs (50%) find their sufficiency as “can be improved”. Below, the opinions of TTEs reflecting this situation are presented:

“... I know what these skills are, I have an awareness on them. Maybe we sometimes feel inadequate in the rapid development of educational tools, but we can solve it immediately with problem-solving skills. Therefore, I am aware of it and I think that I am sufficient as much as I need it.” (TTE1)

“I may not be proficient in each of the 21st century skills, but yes on the four 4C skills. ... And there is no end to saying ‘Yes, I am sufficient.’ If you are a lifelong learner, you never feel sufficient anyway. You constantly try to improve yourself, so I think the purpose of the 21st century is to raise this type of learner. In this sense, competence should not be a criterion. I think we always have areas for improvement. ...” (TTE3).

### T4. Personal Development in the 21st Century Skills

“How did/do you improve yourself?” was Question 4 in the semi-structured interview. Below presented the sub-themes related to the replies of TTEs (See Table 15.). Some TTEs stated their opinions related to more than one sub-theme.

**Table 15.** Sub-themes Regarding TTEs' Responses on Their Personal Development in the 21st Century Skills.

SUB-THEMES	f	%
Vocational training - Conferences	4	100
Making use of technology in terms of theory and practice	3	75
Reading books and articles	4	100
Total	4	100

‘Vocational Training’ and ‘Reading books and articles’ sub-themes were mostly emphasized sub-themes by 4 replies for each, and they are followed by ‘Making use of technology in terms of theory and practice’ sub-theme by 3 replies. Below, some selected responses of TTEs are presented:

“First of all, there is an advantage of being an academician. We do not stop reading, we constantly think of ourselves as students. ... While I am doing my job, I am trying to learn from my colleagues, articles, books, vocational training, and I am researching. ... I strongly believe in ‘Teaching is double learning.’ We teach and learn at the same time. ...” (TTE3)

“Articles and scientific data are very important to us. ... Since the information is given in bulk and put into a classification, the articles help me a lot. I also attend conferences and symposiums. My focus is on being able to use the knowledge we have learned. So, my teaching style is generally based on this. This improves my teaching skills.” (TTE4)

## DISCUSSION

“Are the PTEs aware of the 21st century skills?” was the first research question of the study. It was observed that while 88 (52.7%) PTEs had a low 21st century skills awareness level, 79 (47.3%) PTEs had a high 21st century skills awareness level when the results obtained from the ‘21st Century Skills and Competences Scale’ was considered (See Table 4.). Regarding the close scores with no significant difference, it can be concluded that the PTEs taking part in the study have a moderate level of the 21st century skills awareness. Similarly, Bedir (2019) found that English teacher candidates have a moderate level of awareness on 4Cs, and also Baran-Lucarz and Klimas (2020) revealed that the majority of EFL teacher candidates lack a clear knowledge of what 21st century abilities are. On the other hand, Irgatoğlu and Pakkan (2020) found the 21st century skills awareness levels of the students studying at the English Language and Literature department to be high. The students in the English Language and Literature department read more books, write more book reviews, reflect critically on the themes in the books they read, and discuss those themes in their classes with others, which may be the reasons that distinguish them from the students in the English Language Teaching Department. In this respect, incorporating these kinds of course materials and activities within the ELT curriculum may be beneficial for PTEs to increase their 21st century skills and awareness levels.

*“Are the TTEs teaching in the ELT department aware of the 21st century skills?”* was the second research question of the study. It was observed that 3 (37,5%) TTEs had a low 21st century skills awareness level, 2 (25%) TTEs had the same score with median, and 3 (37,5%) TTEs had a high 21st century skills awareness level (See Table 5.). In other words, it may be stated that the number of TTEs with high and low 21st century skills awareness levels was equal, however, the number of TTEs with moderate 21st century skill awareness levels was equal to the median value of 186 with the fewest participation among the others. Because of the fact that the percentages of their scores did not differ significantly from one another, it is accepted that TTEs have a moderate 21st century skills awareness level. There is no similar study found which has revealed similar findings to this study when the previous studies were examined. However, Mehdaoui and Benabed (2022) found that teachers of EFL are fully cognizant of the significance of 21st century skills, and similarly, Tuzlukova et al., (2018) revealed that English teachers, who are working at universities, are aware of the significance of incorporating critical thinking skills into their classes. Comparing PTEs and TTEs findings, it is possible to claim that the TTEs and PTEs’ 21st century skills awareness levels seem to be related and affecting each other.

“What are the perceptions of the participants about their awareness on the 21st century skills?” was the third research question of the study. Based on the findings, considering the opinions of the participants on the significance of 21st century skills in ELT, it was seen that all PTEs and TTEs think the 21st century skills are important in ELT (See Table 7. and 12.). These findings are thought-provoking when the findings from the 21st century skills awareness scale are considered. Findings indicated that PTEs and TTEs who took part in the study have a moderate level of the 21st century skills awareness. However, they expressed the importance of 21st century skills. Therefore, this could be explained by their willingness to get the 21st century skills. Considering the views of the participants on the most effective 21st century skills in ELT, it was seen that communication skills, collaboration skills, critical thinking skills, creativity skills, information, media, and technology skills, and entrepreneurship skills were emphasised by the PTEs respectively (See Table 8.). On the other side of the coin, it was seen that TTEs emphasised critical thinking skills, creativity skills, analysis and synthesis skills, life and career skills, learning and innovation skills, information, media, and technology literacy skills, problem-solving skills, communication skills, collaboration skills, motivation, risk-taking skills, productivity skills respectively (See Table 13.). In addition to the similar findings from the quantitative part of the study, also the perspectives of the TTEs and PTEs seem to be in line, considering critical thinking and creativity to be highlighted more by both groups of participants. Considering the opinions of the participants on their self-awareness on the 21st century skills, it was seen that most of the PTEs find themselves sufficient in terms of their awareness of the 21st century skills (See Table 9.). This result differs from the one revealed by the scale because, even though the majority of PTEs indicated that they find their awareness of the 21st century skills sufficient, the scale did not reveal a high level of awareness. On the other side of the coin, it was seen that half of the TTEs find themselves sufficient in

terms of their awareness of the 21st century skills while the other half think they need to improve themselves (See Table 14.). This might be regarded as positive since half of the TTEs think they are aware, and the other half are still willing to get better. Although PTEs and TTEs have moderate scores of the 21st century skills awareness from the scale, the interview findings show that their self-reflections are positive. This might be explained by their having positive attitudes towards the 21st century skills concept.

When their personal development in the 21st century skills was investigated, it was seen that PTEs improve themselves by using social exchange opportunities, benefiting from technology, making movie and book critiques, making use of others' experiences, and attending some elective courses (See Table 10.). For the TTEs, it was seen that they try to improve their 21st century skills by making use of technology in terms of theory and practice, attending vocational training programs and conferences, and reading books and articles (See Table 15.). The findings show their attempts and willingness to improve themselves in terms of the 21st century skills.

## CONCLUSION AND SUGGESTIONS

This study contributed to the relevant literature by shedding light on the PTEs' and TTEs' 21st century skills awareness levels. First, PTEs' and TTEs' 21st century skills awareness levels were analysed by using a scale. Then, the perceptions of the participants on their 21st century skills awareness were analysed through semi-structured interview questions considering the quantitative results. By providing quantitative data, the awareness levels of PTEs and TTEs were examined, and by providing qualitative data, detailed data were gathered and analysed to have an in-depth understanding of the case. Thus, this present study is of great importance since it provides two sides of a coin: both PTEs' and TTEs' 21st century skills awareness levels and their insights. This is highlighting the case of the 21st century skills in the English Language Teaching context from both the prospective teachers' and teacher trainers' perspectives.

In the light of the findings, some suggestions might be presented. First, more flexible planning of curriculum and content of courses may allow teacher trainers to use the 21st century skills more actively in their classes. Therefore, it is advised that EFL teacher trainers increase course practices that let PTEs demonstrate their language proficiency, foster a collaborative environment, put their knowledge and skills into practice (like micro-teaching), and give them opportunities to reflect on their experiences and evaluate their own learning. Regarding the levels of 21st century skill awareness of TTEs and PTEs were discovered to be related, CoHE can plan in-service teacher training activities (online and face-to-face) to raise the 21st century skills awareness of teacher trainers and to support their integration of the skills. In addition, training activities like seminars on the 21st century skills can be organised for teachers, teacher trainers, and prospective teachers by working with various institutions. To provide data, more extensive research can be conducted with more prospective teachers studying in different cities and departments of other public and private universities in Türkiye, given that the results of the study are solely confined to the participants at a state university in Konya.

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