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English Instructors' Self-Efficacy Beliefs Regarding 21st-Century Skills and their Implementation and Assessment in the Classroom*

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ABSTRACT

This study examines the self-efficacy beliefs of English Language Preparatory Program (EFL) instructors in teaching and assessing 21st-century skills and their integration into English classes. Utilizing a single and relational screening research design, data were collected via an online survey from 98 English language instructors employed at university preparatory schools providing intensive English instruction. The survey, including 72 items on eight dimensions of 21st century skills, employed a 5-point Likert-type scale. The results revealed discrepancies between instructors' knowledge of these skills and their implementation of them in their classes. Instructors implemented these skills in their classes at a moderate level. Overall, instructors' competency in integrating and assessing 21st-century skills fell below the standards expected in higher education institutions. These findings offer important implications and provide practical suggestions for improving the implementation and assessment of 21st-century skills.

Keywords: 21st-century skills, English Language instructors, assessment

İngilizce Öğretim Görevlilerinin 21. Yüzyıl Becerilerine, Bu Becerileri İngilizce Derslerine Entegre Etmelerine ve Değerlendirmelerine İlişkin Öz Yeterlilik İnançları

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ÖZET

Bu çalışma, Üniversite İngilizce Hazırlık Programı (İHOP) öğretim görevlilerinin 21. yüzyıl becerilerini öğretme, değerlendirme ve İngilizce derslerine entegre etme konusundaki öz yeterlik inançlarını incelemektedir. Çalışmanın verisi ilişkisel tarama araştırma deseni kullanılarak, yoğun İngilizce eğitimi veren üniversite hazırlık okullarında çalışan 98 İngilizce öğretim görevlisinden çevrimiçi bir anket aracılığıyla toplanmıştır. 21. yüzyıl becerilerinin sekiz boyutuna ilişkin 72 maddeden oluşan ankette 5'li Likert tipi bir ölçek kullanılmıştır. Öğretim görevlilerinin bu becerileri sınıflarında orta düzeyde uygulamakta oldukları belirlenmiştir. Genel olarak öğretim görevlilerinin 21. yüzyıl becerilerini entegre etme ve değerlendirme konusundaki yetkinlikleri, yükseköğretim kurumlarında beklenen standartların altında kaldığı gözlemlenmiştir. Çalışmanın bulguları, 21. yüzyıl becerilerinin uygulanması ve değerlendirilmesinin iyileştirilmesi için önemli çıkarımlar ve pratik öneriler sunmaktadır.

Anahtar Sözcükler: 21. yüzyıl becerileri, İngiliz Dili öğretim görevlileri, değerlendirme

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1. INTRODUCTION

In today's rapidly changing world, people learn a foreign or second language for several reasons beyond mere job opportunities or career advancement (Dörnyei, 2001). Besides these instrumental goals, individuals may also be motivated by a broad range of reasons, such as enhancing communication skills (e.g., Brennan, 2010; Cameron & Webster, 2013; McMahon & Watson, 2016), developing personal experiences (e.g., Brown, 2010; Seligman, 2002), broadening their perspectives (e.g., Arnett, 2000; Mezirow, 1991; Roth & Jornet, 2014; Senge, 1990), nurturing an appreciation for cultural diversity (Byram, 1997; Gardner, 1985; Kramsch, 1993), deepening their understanding of their native language (Lightbown & Spada, 2013), improving cognitive abilities (Bialystok, 2001; Cummins, 1979), refining analytical, and problem-solving skills (Dweck, 2006; Hattie, 2009; Schunk & Zimmerman, 2008). These evolving needs have greatly influenced language learning approaches, leading to the development of new teaching methods, strategies, and techniques (Hedge, 2000; Richards & Rodgers, 2001).

As widely acknowledged, contemporary learning environments emphasize collaboration and learner autonomy, integrating technology to cater to the needs of digitally literate learners in the 21st century (Eaton, 2010). Globalization has prompted a shift from knowledge-centered teaching practices of the 20th century (see, Darling-Hammond, 2010; Friedman, 2005; Gordon & Maeroff, 2000; Schleicher, 2018; Zhao, 2012) to a focus on skills development, providing learners with opportunities to cultivate their abilities to tackle complex tasks and master the art of learning itself (Biesta, 2010; Darling-Hammond, 2017; Hager & Holland, 2006). However, it is important to note, as emphasized by Fadel and Trilling (2009), that 21st-century pedagogy does not disregard the principles of 20th-century education; rather, it seeks to strike a balance between both paradigms by blending skill-building with knowledge acquisition to ensure learners achieve competence in their respective fields. Figure 1 illustrates the dynamic interplay and equilibrium between 20th and 21st century approaches to learning and teaching.

Teacher-directed	**Learner-centered**
Direct Self instruction	Interactive exchange
Knowledge	Skills
Content	Process
Basic skills	Applied skills
Facts and principles	Questions and problems
Theory	Practice
Curriculum	Projects
Time-slotted	On-demand
One-size-fits-all	Personalized
Competitive	Collaborative
Classroom	Global community
Text-based	Web-based
Summative tests	Formative evaluations
Learning for school	Learning for life

Figure 1 21st Century Learning Balance by Fadel and Trilling (2009, p.38)

While 21st-century pedagogy endeavors to reconcile both paradigms by integrating skill-building with knowledge acquisition to ensure learners attain proficiency in their respective fields, as underscored by Fadel and Trilling (2009), education in the information society is anticipated to markedly diverge from education in the industrial society (Pelgrum, Collis & Janssen, 1997).

Table 1. Expected changes from education in the industrial society to education in the information (Pelgrum, Collis & Janssen (1997)

Actor	Education in the industrial society	Education in the information society
School	• Isolated from society • Most information on school functioning confidential	• Integrated in society • Information openly available
Teacher	• Initiator of instruction • Whole class teaching • Evaluates student • Places low emphasis on communication skills	• Helps students find appropriate instructional path • Guides students' independent learning • Helps student to evaluate own progress • Places high emphasis on communication skills
Student	• Mostly passive • Learns mostly at school • Hardly any teamwork • Takes questions from books or teachers • Learns answers to questions • Low interest in learning	• More active • Learns at school and outside school • Much teamwork • Asks questions • Finds answers to questions • High interest
Parent	• Hardly actively involved in learning process • No steering of instruction • No life-long learning model	• Very active in learning process • Co-steering • Parents provide model

The existing literature demonstrates a substantial body of research exploring students' and teachers' 21st-century skills (see, Altunkaya & Çelik, 2021; Aydın & Tan Şişman, 2021; Bedir, 2019; Eryılmaz, 2020; Karalı & Aydemir, 2020; Tican & Deniz, 2019; Yıldırım & Ortak, 2021). However, there is limited research on teaching and assessing these skills in the classroom environment, particularly in Turkey (Otlu, 2020). To enhance the quality of teaching English and foster well-rounded citizens, explicit instruction in 21st-century skills within classrooms is essential. It is unrealistic to expect students to acquire these skills by the end of their bachelor's studies without prior instruction. Therefore, investigating instructors' in-class practices related to 21st-century skills is crucial for evaluating the quality of education in universities and its alignment with modern educational standards. Additionally, exploring instructors' self-efficacy beliefs in teaching and assessing these skills is vital, as individuals with high self-efficacy perceive challenging tasks as opportunities to excel, while those with low self-efficacy may view them as daunting obstacles (Bandura, 1993).

The current study aims to contribute to the existing research on 21st-century skills by examining the practices and self-efficacy beliefs of instructors regarding the teaching and assessment of these skills. This research endeavor will shed further light on our understanding of 21st century skills.

The study will address the following research questions:

1. To what extent do ELF instructors incorporate 21st-century skills into their classes?
2. Is there a statistically significant difference between ELF instructors' teaching of 21st-century skills and their socio-demographic characteristics (such as previous knowledge about 21st-century skills, level of education, years of experience, and the percentage of course hours allocated to assignments/projects/research requiring one week or more of preparation time)?
3. To what extent do ELF instructors feel confident in their ability to teach and assess 21st-century skills?
4. Is there a statistically significant relationship between the degree to which instructors incorporate 21st-century skills into their classes and their self-efficacy in teaching and assessing those skills?

2. Review of literature

2.1. 21st-century skills Frameworks

In the ever-evolving landscape of the information age, numerous studies have delved into the essential skills required by individuals in the 21st century, leading to the development of 21st-century skills frameworks. According to the OECD (2019), these skills encompass cognitive and meta-cognitive skills, social and emotional skills, as well as practical and physical skills. Conversely, the 21st-century skills Framework by P21 (2019) categorizes these skills into three groups: learning and innovation skills, information, media, and technology skills, and life and career skills. The 21st-century skills Framework by P21 (2019) illustrates the 21st-century skills identified by different frameworks, which exhibit substantial overlap with minor variations.

The qualifications for higher education were established with the adoption of QF-EHEA (2005) in May 2005 in Bergen, involving 45 countries that are members of the Bologna Process. This framework comprises three cycles. The first cycle outcomes entail possessing fundamental knowledge in their respective fields and effectively applying it professionally, along with the ability to pose questions, tackle department-related issues, gather and analyze pertinent data, and engage in critical reflection. Advanced knowledge and problem-solving abilities applicable to interdisciplinary contexts, alongside autonomy in navigating challenging scenarios, drawing sound conclusions, and exercising ethical judgment, constitute the outcomes of the second cycle. Lastly, third cycle outcomes primarily revolve around specialized expertise in the field, incorporating skills from previous cycles, as well as honing research methodologies, proficiency in higher-order skills such as critical analysis, evaluation, synthesis, effective communication with experts and scholars in the field, and contributing to technological, social, and cultural advancements. While the QF-EHEA framework does not explicitly delineate 21st-century skills, it can be inferred that it supports and encourages their development.

2.1.2. Critical Thinking

One of the hallmarks of the information age is the capacity for individuals to engage in self-directed learning, comprehend, analyze, and apply knowledge, alongside possessing strong problem-solving skills. Problem-solving, in particular, is closely intertwined with critical thinking. Effectively resolving a problem necessitates critical thought, involving the interpretation of information and the formulation of judgements

and decisions (Kereluik, et al., 2013). The Cambridge International Dictionary of English (1995) defines critical thinking (CT) as the process of delving deeply into a topic or concept without being swayed by emotions or personal opinions. Essentially, it entails "thinking about thinking," whereby we meticulously scrutinize and test arguments and ideas to ascertain their validity (Moore & Parker, 2009). According to the Cambridge Life Competencies Framework (CLCF, 2020), English language classrooms offer a conducive environment for practicing and cultivating CT skills, as learners are encouraged to explore various topics and exchange ideas. Hixson et al. (2012) enumerate critical thinking skills as follows:

- Analyzing complex problems effectively,
- Investigating questions that lack clear-cut answers,
- Evaluating different perspectives or sources of information,
- Drawing well-founded conclusions based on evidence and reasoning.

Similarly, CLCF (2020) subdivides CT skills into understanding and analyzing ideas and arguments, evaluating ideas and arguments, and solving problems and making decisions. With these competencies in mind, several recommended strategies for adults to enhance their CT skills comprise engaging with diverse materials related to a subject to appreciate various viewpoints, participating in information gap activities, engaging in classroom debates, utilizing visual diagrams to facilitate deeper assessments, and engaging in reflective exercises (CLCF, 2020).

2.1. 3. Collaboration

Scholars have asserted that collaborative learning (CL) fosters critical thinking among learners as it necessitates the exchange of ideas, active participation in discussions, taking initiative, and self-directed learning management (Gokhale, 1995; Totten, 1991). According to Hixson et al. (2012), learners with collaboration skills can effectively collaborate with others, respectfully engage in problem-solving, and share responsibility to accomplish shared objectives. Collaboration involves taking personal responsibility for own contributions to a group task, encouraging affective group interaction, managing the sharing of tasks in group-activity, and working toward task completion (CLCF, 2020).

2.1.4. Communication

Communication has long been recognized as essential in everyday, professional, and academic contexts (Germaine, Koeller & Schubert-Irastorza, 2016). While communication is not a novel skill like many others in the 21st century repertoire, it remains paramount in our globalized world and warrants attention. Hixson et al. (2012) characterize individuals with strong communication skills as those capable of articulating their thoughts and discoveries, presenting data, and sharing information through various modes of communication, both orally and in writing, across different media. In CLCF (2020), the components of communication skills are delineated as using appropriate language and register for the context, facilitating interactions, and participating with appropriate confidence and clarity.

2.1.5. Creativity

Fadel and Trilling (2009) propose that to ensure learning remains relevant and enduring for digital natives, there is a growing need for experiential learning opportunities wherein they engage with authentic working environments and tackle real-world challenges. Problem-solving in such contexts necessitates creative thinking and the generation of novel ideas. Creative individuals employ various techniques such as brainstorming, mind-mapping, doodling, and diagramming to generate and refine ideas, allowing them

to test, explain, evaluate, and enhance their concepts (Germaine et al., 2016). According to CLCF (2020), core areas and components of creative thinking mainly consists of preparing for creativity, generating ideas.

2.1.6. Self-direction

Grow (1991) defines self-directed learners as individuals capable of setting their own objectives, effectively managing time and projects, assessing their own performance as well as that of their peers, accessing requisite information, and utilizing educational resources. Self-direction is synonymous with learning to learn. In the 21st century, the abundance of easily accessible information, particularly online, presents both opportunities and challenges. Amidst the vast array of online resources, some are valuable while others may be misleading. Learners must acquire skills to discern and extract pertinent and reliable information from the internet. Self-directed learners demonstrate initiative and employ strategies to assimilate valuable information that enhances their learning journey. Hixson et al. (2012) characterize self-directed learners as individuals who take control of their learning by selecting relevant topics for exploration, monitoring their progress, evaluating their work, and acting upon feedback. CLCF (2020) lists core areas and components of learning to learn skills such as developing skills and strategies for learning, taking control of own learning, and reflecting on and evaluating own learning.

To foster self-directedness among learners, teachers can involve them in the processes of setting goals and establishing classroom rules for lessons, devising timetables, outlining criteria, and creating evaluation checklists for their projects (Grow, 1991). This collaborative approach enables students to feel more autonomous and engaged in the learning process. While self-direction entails working independently and assuming responsibility, it does not preclude learners from receiving assistance from teachers. Contrary to the belief of some educators, a study conducted by Vu and Shah (2016) revealed that learners perceive teacher guidance and instruction as crucial factors in enhancing their self-directed learning skills, underscoring the importance of teacher involvement in facilitating self-directed learning.

2.1.7. Global and Local Connections

Technology has facilitated global interconnectedness, fundamentally altering our perceptions of the world and shaping our identities. According to Fadel and Trilling (2009), our identities are influenced by both our own cultural backgrounds and the diverse cultures encountered in the global landscape of the 21st century. The younger generation, born into a digital era, are inherently immersed in a global context, highlighting the growing necessity for acquiring skills in global communication and establishing international connections. Hixson et al. (2012) outline the skills associated with forging global connections, which include understanding global and geopolitical issues, cultivating awareness of diverse cultures, literature, languages, geography, and histories of other countries. Similarly, learners possessing skills for establishing local connections are expected to leverage their understanding of local contexts and address issues within their communities. CLCF (2020) delineates the skills pertinent to the social responsibilities of learners as understanding personal responsibilities as part of a social group, showing intercultural awareness, and understanding global issues.

2.2. Assessing 21st-Century Skills

Saavedra and Opfer (2012) assert the difficulty in both assessing and teaching 21st Century Skills. Bapna, Sharma, Kaushik, and Kumar (2017) examined various testing methods for critical thinking, creativity, empathy, and executive function, discovering significant overlap in their designs. Specifically, items assessing creativity often correlate with those assessing critical thinking. Consequently, evaluating

these skills separately presents challenges. To address this issue, the ATC21S (Assessment and Teaching of 21st Century Skills) project was initiated by the University of Melbourne in 2009. This project aims to enhance learners' higher-order skills and develop innovative assessment approaches (Griffin, Care & McGaw, 2012). Figure 1 illustrates the phases of the ATC21S project.

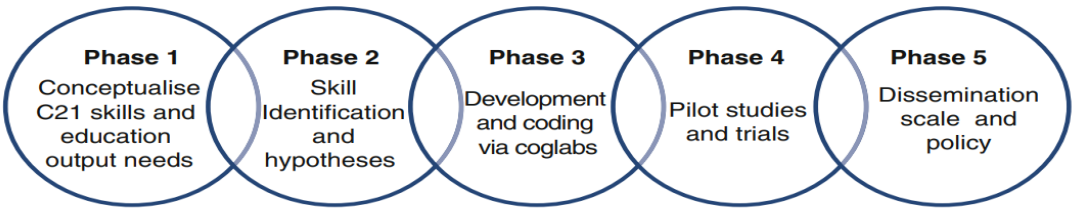

Figure 1 The phases of ATC21S project (Griffin et al., 2010*)*

Figure 2 depicts a system of assessments that utilizes individual student data to offer direct feedback to both students and faculty, while also informing schools and educational systems. This data serves multiple purposes, enabling educators and educational systems to assess program outcomes, enhance curricula, devise improvement strategies, and identify students in need of additional support (Binkley et al., 2012).

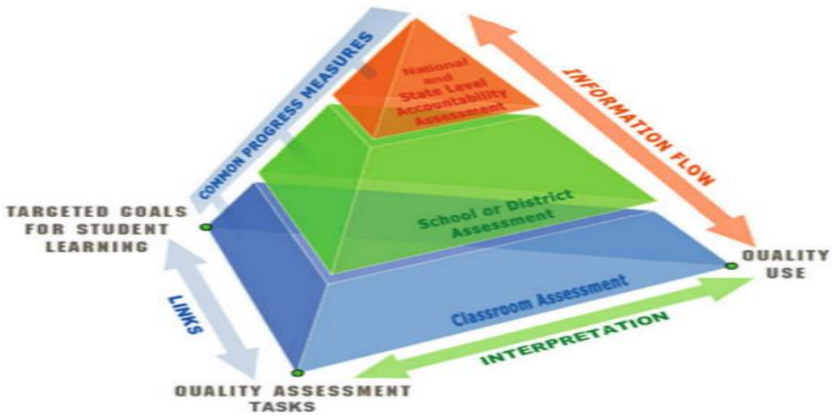

Figure 2 Integrated Assessment System (Binkley et al.,2012)

2.3. Self-Efficacy

Self-efficacy refers to one's belief in their ability to successfully accomplish tasks. Bandura (1977) posits that individuals' beliefs about their own effectiveness significantly influence their behaviors in particular situations. According to self-efficacy theory (Bandura, 1993), individuals with high self-efficacy view challenging tasks as opportunities to be conquered, while those with low self-efficacy perceive them as threats to be avoided. Autonomous teachers generally exhibit high levels of self-efficacy. Enhanced efficacy tends to correlate with greater effort towards action or prolonged persistence in achieving goals. Conversely, individuals with lower efficacy tend to give up easily, invest less effort, and achieve poorer teaching outcomes, ultimately resulting in a decline in their self-efficacy (Tschannen-Moran et al., 1998).

Bandura (1977) proposes four primary sources of personal efficacy: mastery experiences, vicarious experiences, verbal persuasion, and physiological states. While all four sources influence teacher self-efficacy, mastery experiences are deemed the most influential as they provide teachers with direct insight into their strengths and weaknesses through actual teaching experiences (Tschannen-Moran et al., 1998). Furthermore, teachers with robust instructional efficacy can facilitate mastery experiences in their students, thereby fostering stronger self-efficacy in learners' behaviors. However, if teachers harbor doubts about

their ability to manage this process, they may inadvertently undermine students' efficacy beliefs and impede their cognitive development (Bandura, 1993).

Teacher efficacy, as explained by Tschannen-Moran, Woolfolk-Hoy, and Hoy (1998), refers to teachers' beliefs in their abilities to effectively plan and implement teaching procedures for specific tasks. Teacher efficacy is not static; it can vary depending on the context. Under different circumstances, teachers may experience fluctuations in their sense of efficacy, feeling either high or low levels of confidence.

2.4. Related Studies

Several studies have been conducted across different educational levels to investigate teachers' perceptions of 21st-century skills or the correlation between their perceptions of these skills and their self-efficacy beliefs in teaching and assessing a subset of them. Some have probed into instructors' perceptions of only some of the 21st century skills, such as critical thinking skills, while some others have examined teachers' self-efficacy beliefs in teaching some of these skills. Additionally, some studies have focused on instructors' self-efficacy beliefs in assessing some of them.

In one of the studies on middle and secondary Lebanese teachers' self-efficacy beliefs in teaching and assessing 21st century skills, Ghamrawi, Ghamrawi and Shal (2017) discovered that the participants felt competent in teaching critical thinking skills, collaboration skills, communication skills, creativity and innovation skills, and self- direction skills. However, the participants felt inadequate in assessing the same skills. The researcher also found that communication and collaboration skills were practiced the most, while making local and global connections were the least implemented in classes. Support to the teachers' feeing inadequate in assessing 21st-century skills comes from a by Charland (2014), who investigated the methods and efficiency of teaching 21st-century skills in Maine schools. The researcher has shown that only 30-40% of those schools indicated assessing the 21st-century skills effectively.

The results of subsequent research on 21st-century skills are fairly controversial in that teachers' implementation of 21st-century skills varied. For example, in one of earliest studies on the integration of 21st-century skills into the lessons at a small private university in the US, Boe (2013) discovered that critical thinking and self-direction were the most frequently addressed practices whereas making global connections skill was the least addressed. Similarly, in their research in US, Wilcox, Liu, Thall and Howley (2017) discovered that more than a third of the faculty members often teach 21st-century skills in their classes. In addition, a fairly significant correlation was found between the instructors' perceptions (attempt, belief, assessment) and teaching collaboration, global and local connections skills. Using technology as a tool for learning, on the other hand, was less emphasized in classroom practices. However, Mugot and Sumbalan (2019), who conducted a study to investigate 21st century learning skills of pre-service teachers' (PSTs), their teaching practices and the challenges they faced during their practice teaching, found a that collaboration was the most addressed skill, while making global and local connections skills and using technology for learning were among the least addressed. They also found that only some PSTs applied critical thinking practices during their practicum.

In another study, Abualrob (2019) investigated 560 science teachers' perceptions of teaching the 21st-century skills found correlation between teachers' age and the extent to which they implement these skills in their classes. The researcher also discovered that training in these skills had no influence on teachers' implementation of them.

In one of the rarest studies on the relationship between teachers' perceptions of 21st-century skills and their self-efficacy beliefs in teaching and assessing them, Hixson, Ravitz, and Whisman (2012)

discovered that receiving project-based training had an influence on teachers' implementation of 21st century skills. Collaboration and critical thinking were among the most frequently practiced skills in classes, whereas making global and local connections skills were the least implemented. Yet again, no correlation was found between teachers' self-efficacy beliefs in teaching and assessing these skills.

Research into the relationship between English language teachers' perceptions of 21st-century skills and their self-efficacy beliefs in teaching and assessing these skills is scarce. In one of these studies, Zhang, Yuan, and He (2020) investigated 336 Chinese university EFL teachers' perceptions of critical thinking skills and their classroom practices. The researchers found a discrepancy between the teachers' perceptions of critical thinking skills and their applications of these skills in their classes. In other words, the participants' perceptions did not translate into teaching practices. In a similar study on the relationship between English language teachers' perceptions and their implementation of 21st-century skills in Turkey, Otlu (2020) unearthed that educational background and level of education did not have a significant effect on teachers' perceptions and practices.

Three conclusions can be drawn from the available literature on teachers' perceptions of 21st-century skills and the relationship among teachers' perceptions, teaching, and assessing them. Firstly, to the best of our knowledge, no study to date has scrutinized the correlation among teachers' perceptions and self-efficacy beliefs of teaching and assessing these skills, especially concerning teachers teaching English as a foreign language. Secondly, previous research has mostly focused on teachers' classroom practices of only a subset of 21st century skills. Finally, research on teachers' self-efficacy beliefs of assessing these skills is almost non-existent. Hence, this study aims to examine EFL instructors' perceptions of 21st-century skills and their self-efficacy beliefs in teaching—classroom implementation—and assessing them.

3. METHOD

In this quantitative study with a descriptive survey design, the single and relational screening model was used to investigate the extent to which 21st-century skills are integrated into English classes by English language instructors, their self-efficacy beliefs on teaching and assessing these skills, and the practices they use. The descriptive research design was preferred as it could precisely define and foresee what and how individuals think, believe, and act (Mitchell & Jolley, 1988). The single screening model was employed to investigate the extent to which 21st-century skills are integrated into English classes by ELPP instructors, their self-efficacy beliefs on teaching and assessing these skills, and the practices they use. The relational screening model was utilized to determine the differences in the level of teaching the 21st-century skills of the participants depending on their level of education, years of experience, the percentage of course hours allocated to projects, having knowledge about the 21st-century skills and teaching. The relational screening model was also used to find out the correlation between the participants' level of teaching the 21st-century skills and self-efficacy beliefs on teaching and assessing these skills.

3.1. Participants and sampling

The data for the study came from 98 instructors of English as a foreign language working at preparatory schools of universities offering intensive English instruction in Turkey. The universities were selected via conventional sampling, one of the non-probability sampling methods where convenience and availability of participants are considered while selecting them (Creswell & Creswell, 2017). The participants were selected via self-selection sampling, where individuals or organizations are invited to participate in research, and they choose to volunteer in the study on their own (Sharma, 2017).

TABLE 2 The distribution of academic degree and year of experience

Demographic information		**N**	**%**
Academic Degree			
	Undergraduate	30	30,6
	Graduate	55	56,1
	Doctorate	13	13,3
Teaching Experience			
	1 Semester		
	1-5 years	3	3,1
	5-9 years	32	32,7
	10 years or more	17	17,3
TOTAL		**98**	**100**

3.2. Data Collection Tools

The data were collected via an online demographic information form and an online survey; participants had one-time access to each. The demographic information form, with three sub-sections, was used to collect demographic information about the participants (see, Table 2). The quantitative data were collected using an online Likert-type questionnaire named *21st Century Teaching and Learning*, developed by Hixson et al. (2012). The questionnaire investigates eight different 21st-century skills in two sections, consisting of 5-8 classroom practices related to each skill and instructors' self-efficacy beliefs on teaching and assessing those skills. In the first section, participants were asked to rate the statements related to classroom practices in terms of frequency on a scale ranging from 1 to 5 (1: Almost never to 5: Almost daily). In the second section, participants were asked to rate how much they taught and assessed each skill on a scale ranging from 1 to 5 (1: Not really to 5: to a very great extent). The content validity of the survey was ensured by combining different but compatible frameworks (Hixson et al., 2012). The correlation between practice and perception measures was found strong for each skill (standardized alpha >.90, inter-item >.58) as well as the correlation of all items combined (alpha=.986) (Hixson et al., 2012).

3.3. Data Collection Procedure

After obtaining written permission from the owner(s) of the questionnaire and the required legal permissions to conduct the research and the survey from the Ethical Committee of a Turkish university, the survey was sent to English language instructors from the selected universities via email. The email included an informative text about the research, the researcher, the aim and scope of the study, as well as the survey link. Ninety-eight participants from thirty-two universities volunteered to take part in the study and signed the online consent form.

3.4. Data Analysis

All statistical analyses were conducted using the SPSS 25.0 program. Initially, the collected data's adherence to the normal distribution hypothesis was assessed by examining skewness and kurtosis coefficients, followed by the selection of preferred parametric test methods. Subsequently, the reliability of the data collection tools was evaluated, and descriptive statistics were provided. Finally, the statistical analyses of the responses to the research questions were performed. Three steps were taken in analyzing the responses:

- Independent samples t-tests were employed to examine the correlation between participants' previous knowledge of 21st-century skills and their classroom implementation, as the data exhibited normal distribution.
- As the data demonstrated normal distribution, One-Way ANOVA was utilized to assess whether participants' levels of teaching 21st-century skills differed depending on variables such as level of education, years of experience, and the percentage of course hours allocated to projects. Fisher's Least Significant Difference (LSD) Test from one of the complementary Post Hoc analyses was used when the variances were homogeneous to identify any differences.
- Finally, Pearson correlation analysis was employed to determine the linear relationship between instructors' self-efficacy beliefs in teaching and assessing 21st-century skills, assessing whether there was a significant relationship.

5. RESULTS

The findings section of this study is organized around the four questions that guide this study.

5.1. Findings pertaining to the first research question

One of the central themes of our study was to assess the extent to which EFL instructors are knowledgeable about 21st century skills. As seen in Table 3, instructors' knowledge of the 21st-century skills and the correlation between having knowledge of 21st-century skills and putting them into actual practice in the classroom were moderate ($\bar{x}$=26.07). The majority of the instructors had knowledge of 21st-century skills, while a quarter of them did not. Using technology as a learning tool was the most commonly used 21st-century skills, whereas making local connections was the least employed skill in the classroom.

Table 3. Descriptive statistics for the sub-dimensions of 21st-century skills teaching and learning scale.

Sub-Dimensions	Mean	SD	N
Critical thinking	3,22	1,00	98
Collaboration skills	3,42	1,06	98
Communication skills	3,18	0,86	98
Creativity and innovation skills	3,48	0,97	98
Self-direction skills	3,17	0,96	98
Making global connections	3,18	0,97	98
Making local connections	2,78	1,02	98
Using technology as a tool for learning	3,64	1,00	98

Mean=26.07

As can be seen in Table 3, the instructors' actual classroom practices of the sub-skills of 21st-century skills varied considerably. For example, the instructors implemented 'summarizing or creating interpretations of what learners have read or been taught,' which was the most commonly practiced sub-skill of Critical Thinking Skills, whereas they practiced the sub-skill 'comparing information from different sources' the least. Only 30.60% of the instructors applied it a few times a semester. It is worth noting that 13.30% of them practiced it almost never.

In comparison to the sub-skills of critical thinking skills, the sub-skills of Collaboration Skills were practiced more. 53.10% of the instructors implemented *pair and group work activities* almost daily, which had the highest ratio of implementation among the other sub-skills. However, working as a team to

implement the feedback they get on their products was the least implemented practice, with an average of 3.06. Only 11.20% of the instructors stated that they practice this skill almost daily.

When it comes to the implementation of the sub-skills of communication skills, it was found that 'answering questions in front of an audience' was the most widely implemented skill, with an average ratio of 35.70%. What is noteworthy is that 25.50% of the instructors implemented it a few times a semester. What is even more striking is the finding that 19.40% of the instructors never practiced this sub-skill in their classes.

Unlike the other sub-skills, creative and innovation skills were implemented above the average. The least implemented sub-skill was 'creating an original product or performance'. Similar to creative and innovation skills, self-direction skills, making global connections, making local connections, and using technology as a tool for learning are four other skills that were widely implemented in classes.

5.2. Findings pertaining to the second research question

In addition to investigating the extent of EFL instructors' knowledge about 21st-century skills and their implementation in classroom practices, we examined the relationship between instructors' teaching of these skills and their socio-demographic characteristics. These characteristics included previous knowledge about 21st century skills, level of education, years of experience, and the percentage of course hours allocated to assignments/projects/research requiring one week or more of preparation time.

Regarding the impact of prior knowledge of these skills, no statistically significant relationship was found between instructors' actual teaching practice of 21st-century skills and their prior knowledge of these skills, with the exception of Making Local Connections, which was statistically significant at the 95% confidence level ($t=2.8$, $p=.01$, $p < .05$). The one-way ANOVA test also revealed that instructors ' education level had no statistically significant effect on actual teaching practice related to 21st century skills, with the exception of *making local connections*, which was statistically significant at the 95% confidence level ($p < .05$). Instructors with a doctoral degree practiced the subskill of making local connections the most, while instructors with a bachelor's degree did so the least. However, instructors' education level had no effect on the hours spent on projects and tasks that required more than one week of preparation, with the exception of the sub-skill of making global connections. Conversely, the instructors' level of education also had a statistically significant impact on the allocation of instructional time for long-term projects and assignments related to the sub-skill using technology as a learning tool. As for the relationship between experience and teaching practices related to 21st century skills, no statistically significant relationship was found.

5.3. Findings pertaining to the third research question

Another question this study sought to answer was the extent to which instructors feel competent in teaching and assessing 21st century skills. The descriptive statistics for the Self-Efficacy Belief Sub-Dimensions of the 21st Century Teaching and Learning scale show that instructors' self-efficacy beliefs in teaching and assessing 21st-century skills are at a medium level ($\bar{x} = 26.63$). The highest-level sub-dimension of the self-efficacy scale is using technology as a tool for learning, with an average of 3.82, while the lowest level sub-dimension was the making local connections dimension with an average of 2.73. 38.80% of instructors believed that they endeavored to develop learners' skills in Using Technology as a Learning Tool to a very high degree; however, only 27.60% of them felt effective in assessing this skill. However, instructors were less confident in assessing 21st-century skills than in teaching these skills. They felt most competent in developing students' communication skills, followed by developing students' use of technology as a learning tool. They felt least competent in developing students' making local connections

skills They also felt least competent in assessing students' making local connections skills with an average of 2.62, followed by Self-direction Skills with an average of 2.95. Only 6.10% of instructors believed they could assess this skill to a very high degree. They felt most competent when assessing communication skills with an average of 3.66.

5.4. Findings pertaining to the fourth research question

Our final research question explored whether there was a statistically significant relationship between instructors' level of self-efficacy in teaching and assessing 21st-century skills and the extent to which they incorporate these skills into their classes. The results of the Pearson correlation analysis on the relationship between instructors' proficiency in teaching 21st-century sub-skills and their self-efficacy beliefs in teaching and assessing these skills showed a positive and moderately significant correlation. The correlation between their self-efficacy beliefs and the actual teaching practice of Self-direction Skills was higher. However, notably, this moderately significant relationship between instructors' self-efficacy beliefs in assessing these skills did not translate into the assessment of these skills in their classes.

5. DISCUSSION

The current study investigated EFL instructors' self-efficacy beliefs concerning the teaching and assessment of 21st-century skills in eight categories, including *critical thinking, collaboration, communication, creativity and innovation, self-direction, making global connections, making local connections,* and *using technology as a tool for learning*. It examined instructors' knowledge and degree of integration of 21st-century skills into their classes, the correlation between their socio-demographic characteristics and the extent of integration of 21st century skills, their self-efficacy beliefs in teaching and assessing these skills, and the relationship between their self-efficacy beliefs in teaching and assessing these skills. The study has yielded several valuable insights, deepening our understanding of instructors' self-efficacy beliefs and how these beliefs manifest in their classroom practices.

One of the findings of our study is that the majority of the English instructors (75.5%) are aware of 21st century skills. However, the ratio of putting this knowledge into practice is quite low. On average, instructors practiced 21st-century skills one to three times per month, which is relatively low considering the numerous sub-skills involved. This finding supports Ghamrawi et al.'s (2017) conclusion that 21st-century skills were practiced below average by Lebanese teachers. However, our finding contradicts the findings of Abualrob (2019), Otlu (2020), and Wilcox et al. (2017). These researchers found that 21st-century skills were frequently practiced. Although Abualrob's and Ghamrawi et al.'s research was conducted with the participation of teachers teaching middle and secondary schools in two Middle Eastern countries—Palestine and Lebanon—their findings differ. It seems that the participants' area of expertise—the only difference between the two groups of participants—impacts their implementation of 21st-century skills into their classes. One plausible explanation for the discrepancy between our findings and those of Wilcox et al. (2017) could be related to the education levels of the participants. Wilcox et al.'s participants were faculty members with an MA degree, whereas almost only half of our participants had an MA or PhD.

Among the 21st century skills, the sub-skill of using technology as a learning tool was the most commonly implemented, whereas making local connections was the least implemented. Although the motives behind the ratio of implementation of these skills in classes were not scrutinized, we can say that after the Covid-19 hit, distance/online education has become popular across the globe; Turkey is no exception. Similarly, the use of the internet both inside and outside the classroom for educational purposes has increased. The low ratio of the implementation of making local connections in English classes could

stem from the popularity of dealing with global issues in English classes. As is widely known, intercultural or cross-cultural issues have occupied a lot more room in ELT coursebooks in recent years. These results align with those of Boe (2013) and Charland (2014). Both researchers found that using technology as a learning tool was the most widely practiced skill, while making local and global connections were the least implemented. Conversely, our finding contradicts that of Ghamrawi et al. (2017) and Mugot and Sumbalan (2019). Considering the countries where these studies were carried out, it sounds plausible to suggest that using sing technology as a learning tool is directly related to how developed a country is economically.

Another purpose of our study was to determine the most frequently used practices of 21st -century skills by instructors in their English classes. Summarizing and interpreting a reading text was the most frequently practiced skill, which is not surprising given that almost every unit in EFL coursebooks includes reading passages that often require students to use their summarization and interpretation skills. On the contrary, asking students to compare information from different sources was the least used practice. This finding is consistent with Otlu's findings (2020). Similarly, Ghamrawi et al. (2017) found that teachers addressed the practice comparing information from different sources the least; however, the practice of drawing their own conclusions based on analysis of numbers, facts, or relevant information was addressed the most. This difference may have resulted from the field of expertise of the participants in different studies, such as science or math. Certain methodologies, such as employing charts, tables, and graphs, may find greater relevance within scientific and mathematical contexts. Naturally, the comparison of information sourced from various outlets holds particular significance within language classes, particularly concerning the evaluation of text neutrality.

When considering the implementation of collaboration skills, participants most frequently instructed their students to work in pairs and small groups to complete tasks. However, they utilized these group tasks least frequently to incorporate feedback on group tasks. Instead, they tended to encourage individual peer feedback. These results align well with the findings of Otlu (2020). Moreover, Boe (2013), Ghamrawi et al. (2017), and Wilcox et al. (2017) found similar results, where working in pairs or small groups to complete a task was also determined as the most commonly used practice.

In terms of communication skills, participants more frequently instructed their students to answer questions in front of an audience than to deliver oral presentations. Additionally, participants did not expect their students to structure data using charts, tables, or graphs in their presentations very often. This finding is consistent with previous studies (Ghamrawi et al., 2017; Otlu, 2020; Wilcox et al., 2017).

Regarding creativity and innovation skills, instructors more frequently assigned activities involving idea creation techniques such as brainstorming or concept mapping, rather than asking them to create an original product. These findings are consistent with those reported by Ghamrawi et al. (2017) and Otlu (2020). These similarities show that teachers often opt for less complex practices when teaching creativity skills. This tendency may result from constraints such as limited time available for such activities and/or the convenience of using idea creation techniques.

In terms of self-direction skills, instructors focused on different types of feedback such as peer, teacher, or expert, while preferring activities where students take initiative, such as choosing their own learning topics, less frequently. Similar results were also found by Ghamrawi et al. (2017) and Otlu (2020). These findings indicate that while teachers value feedback, they are not yet fully embracing student involvement in the teaching process. Perhaps some instructors find it uncomfortable to allow learners to choose their own topics. One solution could be to provide a suggested list of topics prepared by the instructor and ask students to select from it. This approach would help teachers feel more comfortable

providing guidance while empowering learners to exercise autonomy in selecting topics for independent study.

When it comes to developing global connections skills, instructors primarily engaged students in activities focused on studying information about different cultures and understanding the lives of people in various countries. However, they least emphasized studying the geography of those places. Regarding local connections, the most frequently used practice involved researching topics and issues related to students' families or communities, while the least utilized practice was analyzing other people's opinions about those issues. These findings are also consistent with those of Otlu (2020).

In terms of using technology as a tool for learning, instructors tasked students with selecting appropriate technology tools or resources while completing tasks and sharing information. However, they did not sufficiently encourage students to interact with experts or members of local/global communities. Similarly, Wilcox et al. (2017) identified selecting appropriate technology tools as one of the most implemented practices in teaching technology for learning. Conversely, Otlu (2020) found that using technology or the Internet for self-instruction was the most implemented skill, while the least implemented skill aligns with the results of the current study. Although participants in Ghamrawi et al. (2017)'s study scored lower overall in teaching practices related to using technology, analyzing information using technology was determined as the most implemented practice.

Our third research question investigated the relationship between participants' implementation of 21st-century skills and their socio-demographic characteristics, such as previous knowledge about the 21st century skills, level of education, years of experience, and the percentage of course hours allocated to assignments/projects/research that required one week or more of preparation time.

Firstly, having prior knowledge of 21st-century skills positively influenced teaching practices related to global connections. This suggests that acquiring knowledge about 21st century education helps teachers understand the importance of fostering global connections. Correspondingly, Abualrob (2019) noted that while study participants received training on 21st century skills, their implementation of practices related to those skills remained at a moderate level. This might suggest that some contemporary teachers may not yet be fully prepared to integrate 21st-century skills into their classes.

Secondly, contrary to the findings of Hixson et al. (2012), our study revealed significant difference only in teaching skills related to making local connections based on the instructors' levels of education. Specifically, instructors with a doctorate degree were found to teach skills related to making local connections more frequently than those with a graduate or undergraduate degree. Otlu (2020) similarly observed a difference in teaching practices related to making global connections. One possible explanation for this is that lecturers with a doctorate degree are more likely to engage with current research and issues, compared to those with lower degrees.

Thirdly, the only significant difference observed was that instructors with 1-5 years of experience taught collaboration skills more frequently than those with 9 years or more. Consistent with previous studies (Abualrob, 2019; Otlu, 2020), no significant difference was found in other skills. This suggests that novice teachers are more adept at implementing collaborative activities in their English classes. Additionally, it might indicate that more experienced teachers may not have fully adapted to the changes in 21st century education to properly develop learners' collaboration skills. One reason why younger teachers demonstrate greater efforts to incorporate these skills into their lessons could be their exposure to modern teaching methodologies during their bachelor's degree, where they are encouraged to use collaborative and communicative methods more frequently.

Lastly, according to the results, the more instructors dedicate course hours to projects, the more they teach skills related to making local connections and using technology as a tool for learning. Therefore, it can be concluded that projects or assignments requiring one week or more of preparation time encourage learners to utilize technology and engage in discussions about global and local issues more actively.

We also investigated instructors' perceptions regarding their capacity to teach and assess 21st century skills. Our findings revealed that instructors feel moderately competent in both teaching and assessing these skills. Among the various 21st century skills, instructors reported feeling most confident in teaching using technology as a tool for learning, while they felt less confident in teaching and assessing the skill of making local connections. This difference in perceived competence could be attributed to the circumstances following the Covid-19 pandemic, during which all teachers had to rely heavily on distance and online education resources for an extended period. This increased reliance on technology likely led to more frequent integration of technological tools into classes, thereby increasing instructors' experience and confidence with technology-enabled teaching methods.

Another significant finding of the study is that teachers' beliefs regarding their efforts in developing students' 21st-century skills are higher than their beliefs about the extent to which their students have actually learned those skills. This finding mirrors that of Gavora (2010), where student teachers exhibited high personal teaching efficacy but lower general teaching efficacy, suggesting uncertainty about their students' ability to learn or a belief that their students' learning is independent of their own teaching effectiveness. Furthermore, consistent with previous research (Ghamrawi et al., 2017; Hixson et al., 2012), instructors expressed greater confidence in their ability to teach 21st-century skills than in their ability to assess them. This disparity may stem from the lack of standardized assessment tools for 21st-century skills. Additionally, Bapna et al. examined various testing methods for critical thinking, creativity, empathy, and executive function and found significant overlap in their design, making it challenging to assess each skill separately as they are often interconnected.

Finally, while participants feel most competent in teaching skills using technology as a tool for learning and believe that their students have learned these skills better than others, they feel most competent in assessing students' communication skills. This result could be influenced by the nature of English Language teaching, where speaking is a core skill taught and assessed in English language classes. Therefore, it is understandable for teachers to feel more competent in assessing this skill. Additionally, there are more resources available for assessing communication or speaking skills compared to using technology for learning skills and other 21st century skills.

Our final research question explored the relationship between the instructors' levels of teaching 21st-century skills and their self-efficacy beliefs in teaching and assessing these skills. Bandura (1977) emphasizes that people's beliefs about their own effectiveness influence their behaviors in specific situations. Consistently, we discovered a positive and mostly moderately strong relationship between the levels of teaching 21st-century skills and the instructors' self-efficacy beliefs in teaching and assessing these skills. A similar finding was reported by Wilcox et al. (2017). This indicates that instructors who frequently utilize practices related to 21st century skills in their English classes tend to feel more competent in teaching and assessing those skills. Similarly, when they feel more competent in teaching and assessing 21st-century skills, they are more likely to use these practices frequently. Notably, it is worth emphasizing that instructors express markedly more confidence in teaching these skills than in evaluating them.

6.1. CONCLUSION

Over the past decade, there has been a growing focus on the competencies necessary for post-secondary success in both high school and college settings (see, Dede, 2010; Kay & Greenhill, 2013; Kivunja, 2014a; McWilliam & Haukka, 2008). These skills, often referred to as 21st Century Skills, comprise critical thinking, teamwork, communication, creativity, self-management, global awareness, community engagement, and technological proficiency (Hixson, Ravitz, & Whisman, 2012).

In line with the importance attached to 21st-century skills in today's world and motivated by the dearth of research on the correlation between EFL instructors' self-efficacy beliefs in teaching and assessing 21st-century skills in Turkey, this study set out to explore EFL instructors' self-efficacy beliefs regarding 21st-century skills, including *critical thinking, collaboration, communication, creativity and innovation, self-direction, making global connections, making local connections,* and *using technology to learn*. We also examined the relationship between their self-efficacy beliefs and their actual classroom practices and assessments of these skills. The analysis of our results provided five insights. First, the majority of instructors possessed knowledge of 21st-century skills; however, a quarter of them did not. Secondly, the correlation between having knowledge of these skills and implementing them in the classroom was moderate. Nevertheless, the application of sub-skills within 21st-century skills varied considerably among instructors. Notably, almost 15% of participants reported never practicing these skills in their classes, indicating a need for further scrutiny and research.

Furthermore, we found no significant correlation between participants' prior knowledge of these skills and their actual classroom practices. Another significant discovery was the dissonance between participants' self-efficacy beliefs and their demonstrated classroom practices. Lastly, our study unveiled that participants' confidence in assessing 21st-century skills was notably lower compared to their confidence in teaching them.

6.2. Pedagogical Implications

Several implications might be drawn from the above-mentioned conclusions. For one, the gap between EFL instructors' knowledge of 21st-century skills and their incorporation of these skills into their classes underscores the need for tailored support systems. This could include, but is not limited to, professional development programs, workshops, or resources aimed at enhancing their comprehension and application of these skills in the classroom. This gap also suggests that current training methods may not effectively bridge knowledge and application. Hence, there is a necessity to reassess and potentially redesign training programs to ensure they equip educators with the requisite skills and methodologies for effective classroom integration.

Secondly, the lack of correspondence between instructors' self-efficacy beliefs and their actual classroom practices seem to underscore a potential mismatch between confidence and capability. Therefore, initiatives should be undertaken to align educators' perceptions of their competencies with their practical achievements through targeted support and feedback mechanisms.

Finally, instructors' low confidence in assessing 21st-century skills relative to teaching them indicates a requirement for enhancement in assessment practices. Training and support should be extended to aid instructors in devising effective evaluation strategies that precisely gauge students' mastery of these skills.

6.3. Limitations and Suggestions for Further Research

The above-mentioned conclusions and suggestions should be approached cautiously, and generalizations should be made sparingly, as our study is not without limitations. Notwithstanding the valuable findings and implications of our research, we must acknowledge its limitations. First, the relatively small sample size of instructors limits the generalizability of the findings. To address this limitation, future studies should include a larger sample size of EFL instructors to validate our results. Additionally, longitudinal studies on self-efficacy could be conducted to track changes in EFL instructors' self-efficacy beliefs and their implementation of 21st-century skills over time, helping to identify factors that influence improvements or declines in both areas. Moreover, researchers should explore the relationship between instructors' knowledge of 21st-century skills and their classroom practices. Identifying barriers to implementation may inform the design of more effective training programs. It is also important to note that the data for our study were collected from instructors who volunteered to participate, leaving us with limited insight into the views and practices of the majority of instructors regarding 21st-century skills. The diversity in how instructors practice these skills warrants further investigation. Finally, the results of this study were drawn from quantitative data. Conducting in-depth qualitative studies utilizing structured or semi-structured interviews, focus groups, classroom observations, and student perspectives regarding the relationship between EFL instructors' self-efficacy beliefs and their actual classroom implementation and assessment of these skills will provide a more comprehensive understanding of the issue, including why some instructors are not integrating 21st-century skills into their classrooms.

Author Contribution Statement:

1. Hüseyin KAFES: Conceptualization, data collection and data analysis.

2. Sinem BİLBEN: Literature review, language editing, revision.

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