



Evaluation of Tourism Undergraduates' 21st Century Learner Skills Usage from Pedagogical Perspective

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Abstract

This article aims to measure the level of tourism undergraduates' 21st-century learner skills usage and compare their skills based on the variables of gender and department. The research data was gathered from tourism faculties in Turkey through the convenience sampling method. 411 tourism undergraduates from four different departments completed the research questionnaire. According to research findings, tourism undergraduates use 21st-century learner skills and four sub-dimensions (cognitive, collaboration, autonomous and flexibility and innovative skills) above midlevel. It was also found that tourism undergraduates' usage of 21st-century learner skills significantly differed based on the department variable; however, it did not differ based on the gender variable. In addition to these, tourism guidance undergraduates' 21st-century learner skills usage significantly differed from that of gastronomy undergraduates in the "General 21st-century learner skills usage", factors of "Cognitive Skills" and "Innovative Skills". However, they were found not to have differed in the factors of "Collaboration and Flexibility" and "Autonomous Skills".

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INTRODUCTION

In order to adapt to the changing world conditions in the 21st century, individuals should be trained to understand the era, analyze the needs of society, think innovatively, access information needed, and most importantly, they should be trained to make lifelong learning a lifestyle. This is undoubtedly possible by making the education system match 21st-century skills (Uçak & Erdem, 2020). For this purpose, students, teachers and educational environments must adapt to the newest situation because it is not possible for learning environments that fail to match the 21st-century skills to achieve this aim and such educational environments cannot raise qualified graduates (Göksün, 2017). As claimed by Hasırcı (2018), educational environments are places where students engage in educational communication and gain different experiences through varying activities.

In an educational environment where education stakeholders are in constant communication, cooperation and feedback, learners can reach a higher level of quality in education (Çavdar & Doymuş, 2016). In order to gain a place in society and have a say, individuals who have 21st-century skills seem to have the mechanism that helps them make the right decisions (Boyacı & Özer, 2019).

The rapid development in the field of technology in this era has had a big impact on communities. Individuals in today's societies need new skills to adapt to social life (Ananiadou & Claro, 2009; Göksün, 2017). As Anagün et al., (2016) highlight, individuals' adaptation to such changes could be achieved only by possessing up to date technology-related skills and acquiring the right information out of given options and analyzing information in rapidly generated data piles. Individuals should also have high-level qualifications and skills to use the data they encounter in their daily lives and transform it into products. However, the skills that people of the 21st century need for work, citizenship and self-realization are very different from those of the former centuries (Yalçın, 2018; Lai & Viering, 2012).

Today, the skills and competencies needed to prepare students for the world of business form the core of education. It is not enough just to learn new information; however, the functionality of the acquired knowledge is also important (Türk, 1999). 21st-century skills include knowledge and skills as well as performance and perception (Dede, 2010:4). Therefore, when the issue is considered from the educational perspective, it is seen that it is no longer enough to transfer only knowledge to the students, individuals should also be given relevant skills. However, societies and industries will have the human resources they need with the acquisition of such skills (Trilling & Fadel, 2009).

Teachers and instructors should know well their learners so that they can guide their learners through their learning experience. Thus they can plan the learning process in line with learners' learning characteristics (Melvin, 2011). Learning processes are claimed to have often been shaped based on teachers' characteristics rather than learners (Tennant et al., 2009). Based on this, it could be claimed that it is necessary to find out students' 21st-century learner skills to better plan the teaching processes. Therefore, this research aims to measure tourism undergraduates' 21st-century learner skills in Turkey.

For that reason, first, this study reviewed 21st-century learner skills with a holistic view considering that it is very important to define the characteristics of the target learners when designing teaching processes (Callison & Lamb, 2004). The learner stakeholders of education systems at tourism faculties are 21st-century learners of these faculties. Getting to know about 21st-century learners at tourism faculties and defining their skills will increase the efficiency

of the curriculum implemented in these departments as well as increase the qualification of graduates. When the relevant literature on this issue is reviewed, the Organisation for Economic Cooperation and Development (OECD), the standards introduced by the American Association of School Librarians (AASL), the skills handled by Trilling and Fadel (2009) under three headings and the skills grouped by Wagner (2008) under seven categories come to the fore as the new millennium's learner characteristics.

As stated earlier, teaching activities and curricula should be designed according to the learner skills in educational settings (Göksün, 2017). The main purpose of this study is to examine the 21st-century learner skills of tourism undergraduates, who will have a major role in service delivery and the country's promotion in the tourism sector in the future. In this context, the following research questions were developed in the research:

1. What are the levels of the 21st-century learner skills usage of tourism undergraduates?
2. Does the 21st learner skills usage of tourism undergraduates differ according to gender/department variables?

The term "learner skills" has been popular in the literature recently (Kurudayıoğlu & Tüzel, 2010). However, few studies have been conducted on measuring the use of 21st-century learner skills (e.g. Korkut & Akkoyunlu, 2008; Kurudayıoğlu & Tüzel, 2010). Although individual skills are considered very important in service delivery and promotion of countries' values (Farrel, et. al., 2001), no study has been conducted on this issue in the Turkish tourism education context. Therefore, this research aims to measure the 21st-century learner skills usage of tourism undergraduates based on a theoretical framework created from four different sources. This makes the contribution of this study significant and unique because identification of the learner characteristics is very important for the redesign and update of educational settings to increase the qualification of graduates and the quality of education provided.

Literature Review

OECD's 21st Century Skills

The organisation for Economic Cooperation and Development (OECD) is an organization that holds an international assessment programme every three years. This organization provides evaluations regarding member countries' success in educating the young population, and thus affects countries' education systems. Ananiadou and Claro (2009) conducted a study in OECD countries and identified the basic learner skills gained in school curricula. The findings regarding Turkey obtained from primary and secondary schools suggested that school curricula taught learners the following skills; creative thinking, critical thinking, researching, communication, decision-making, problem solution, information and communication technologies (Ananiadou & Claro, 2009). Pedro (2006) conducted a study in OECD countries to find out some learner characteristics and grouped the new century's learner skills into three categories; alternative cognitive skills, changes in cultural practices and social values and expectations for teaching and learning. Alternative cognitive skills suggest that new generation learners have different cognitive skills from past generations claiming that new generations grow accessing information through digital resources, prioritizing visuals, voice and actions in texts, getting information non-linear cations and performing multitasking (Pedro, 2006);

According to the OECD (2012), new millennium learners can achieve the requirements of more than one task without disruption. In addition to their alternative cognitive characteristics, new millennium learners also differ from

the previous generations by their changes in cultural and social values. According to these changes, new millennium learners tend to be physically isolated, give quick and instant responses, spend more time on digital activities, consider multimedia content more naturally and grow up as self-expressing individuals (OECD, 2012).

Trilling and Fadel's 21st Century Skills

Trilling & Fadel (2009) examined the 21st-century learner's skills in three main headings; learning and innovation skills, life and career skills, and media and technology skills. Learning and innovation skills are examined under two sub-headings; generation of knowledge and skills, learning how to renew and learn. The generation of knowledge and skills has a more extensive characteristic than all the mentioned skills. The main reason for this is that it can explain other skill areas and performance indicators as it covers both the processes of accessing information and structuring information of 21st-century learners. A visual representation of the mentioned skill is presented in Figure 1.

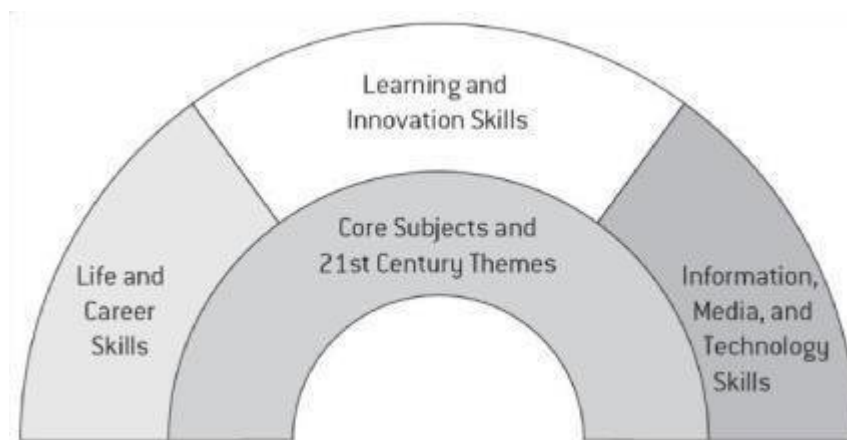


Figure 1. Trilling and Fadel's 21st-century learner skills (Trilling & Fadel, 2009)

It can be claimed that the generation of knowledge and skills can adapt to any situation and produce valid data. The skills of learning how to renew and to learn refer to the skills of communication and cooperation, problem-solving and critical thinking, creativity and innovation. From this point of view, cooperation, innovation and creativity are considered among the 21st-century learner skills and lifelong learning skills. Trilling & Fadel (2009) have organized digital literacy skills in a way to express information curiosity, fluency in media use, and technology-based learning skills. In this context, digital literacy skills include three literacy skills, which are information literacy, media literacy, and information and communication technology literacy.

Information literacy is related to accessing information, evaluating information from a critical point of view, and using this information correctly and creatively. Media literacy skills are about 21st-century learner skills' ability to use 21st-century media and communication tools such as podcasts, videos, web 2.0 tools, and web pages in their learning processes effectively. Literacy skills in information and communication technology refer to the skills of effectively integrating and using digital tools in learning processes. Career and life skills have been defined as being ready for professional life and giving importance to personal development (Trilling & Fadel, 2009).

When the dimensions are examined, it is seen that career and life skills are for professional life and so they could be measured in professional life. Therefore, they were excluded from the framework of 21st-century learner skills

used in this study just because tourism undergraduates, as the participants of this research, have not yet started their professional lives.

American Association of School Librarians (AASL) Standards

In addition to the research conducted by the OECD and Trilling & Fadel (2009), AASL has conducted research on 21st-century learners. AASL standards take into account face-to-face information sharing and information sharing through technology. Within the framework of the AASL standards, four different areas of skills, resources and tool use have been identified;

- Making research, knowledge acquisition and critical thinking,
- Determining the results, decision-making, adapting learned information to new situations,
- Participation and sharing of information ethically and productively
- Personal and aesthetic development

Some performance criteria have been developed for each of them under the name of skills use disposition in action, responsibility and self-assessment. The first of these skills usage means the key skills used in managing comprehension, learning, thinking and knowledge acquisition. Disposition in action means that beliefs and attitudes guide intellectual behaviours. Responsibilities are the shared behaviours expected from every learner in the research processes, investigation and problem-solution (AASL, 2007).

Self-assessment strategies are the questioning of a learner's skills used in the evaluation of her/his learning, or the questioning if s/he has fulfilled the assigned responsibilities or if his/her actions are efficient enough or not (AASL, 2007). As the indicators of the sub-skills of the proposed standards of AASL; skills, sources and tool use regarding the responsibility and self-assessment strategies have an abstract and individualist nature (AASL, 2009), they cannot be examined in an action-oriented way under the name of 21st-century learner skills usage. Therefore, only those under the name of skill and disposition in action indicators are considered in this study.

Making research covers the skills of conducting research for the accuracy of the source and comparing the accessed information with the falsified sources, questioning the truth underlying information, employing different research strategies from those used by others or benefitting from the same sources differently from other researchers under critical thinking and knowledge acquisition. Determining the results covers adapting learned information to new situations, making decisions, the analysis and creating new information, synthesis, evaluation and regulation strategies used by students in structuring information (AASL, 2007).

AASL (2007) also claims that 21st-century learners use these skills to make every information they reach usable in their daily lives and that they collaborate and share ideas in these processes. The skill of participation and ethically sharing knowledge as part of a democratic society is defined as sharing the acquired knowledge and inferences with other individuals or the group. Adhering to ethical values is defined as the execution of these processes. Personal and aesthetic development of the individual learners is defined as learners' encodings, curiosity, creativity, and acquired knowledge to use for their personal development to move forward. When the standards presented by the AASL are examined, it is seen that it focuses on what skills, sources and tools 21st-century students use in the learning processes (AASL, 2007). However, 21st. century learning covers the usage of tools and resources and more individual-specific skills such as innovation, knowledge acquisition and creativity. From this point of view, this research, which is

conducted on 21st-century higher education tourism learners, should also focus on individual skills. This gap is filled with the 21st-century skills suggested by Trilling & Fadel (2009) and Wagner (2008)

Wagner's 21st Century Learner Skills

Wagner (2008) examined 21st-century skills under seven headings and named them "survival skills". Wagner highlighted that they are of vital importance in the 21st century. These seven skills were created based on the skills required for each individual to be active and successful in the learning, work and citizenship processes and to effectively apply what each individual has acquired to their lives (Wright et al., 2006; Wagner, 2008). The No Child Left Behind Act of 2001 (NCLB) argues that no child should be left out of the teaching process (Wright et al., 2006). Based on this basic principle, in order to ensure that no child is left behind in the learning, work and citizenship processes, the skills that 21st-century learners should have are listed as follows by Wagner (2008); leadership and collaboration between systems and individuals, critical thinking and problem solving, initiative-taking and entrepreneurship, quick wit and adaptability, ability to access and analyze information, effective oral and written communication, curiosity and imagination.

Critical thinking and problem-solving skills mean testing the accuracy of the information obtained, questioning what contribution this piece of information will make, and using the acquired knowledge or information correctly in problem-solving. Within the scope of cooperation and leadership skills between systems and individuals, 21st-century learners are expected to adapt to the systems they work with, learn from each other through cooperation, know other cultures, and thus be able to keep up with cultures. Mental agility and adaptability skills refer to the ability to create quick, new and creative solutions to learning or real-life problems, keep up with both learning and business environments and cultural changes, and renew oneself following these changes. Within the scope of entrepreneurship and initiative-taking, individuals are supposed to use self-management and self-control strategies to come up with solutions to the difficulties encountered during information acquisition and work-life processes and to take initiative (Wagner, 2008).

Effective oral and written communication skills refer to the ability to effectively use language skills in both spoken and written language, both in print and digital writing. The ability to access and analyze information refers to 21st-century learners' skills used to cope with the information encountered (Wagner, 2008). As suggested by Wagner (2008), choosing the right information that will solve their life problems or provide personal benefits from such information, establishing a connection between the information and making inferences is named ability to access and analyze data. Wagner (2008) also emphasized that individuals' curiosity and interest are important both in accessing information and making analyses and syntheses to use the information.

In order to address the 21st-century learners skills of tourism undergraduates in Turkey, the OECD's new millennium learner characteristics, focusing on the individual characteristics of learners, the AASL standards defining social and interpersonal learner skills, Wagner's (2008) 21st-century learners skills, who examined the issue from a socio-psychological point of view, and identified seven skills from technology and innovation perspectives and Trilling and Fadel's (2009) skills were taken as the theoretical source of this research. The summary of the model is seen in Figure 2.

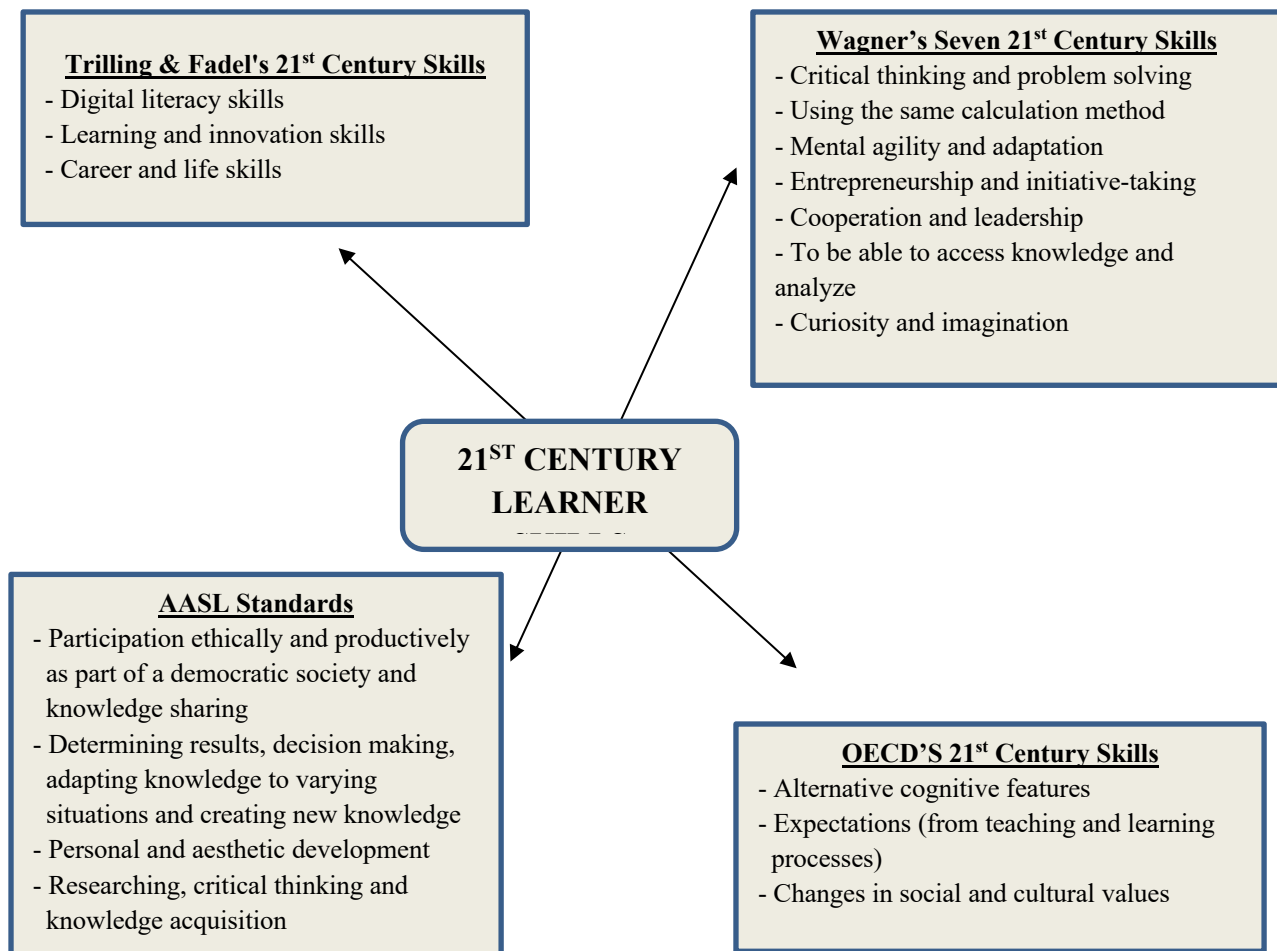


Figure 2. 21st Century Learner Skills

When the studies on 21st Century Learner Skills are reviewed, the following research has been found in the literature. Şahin (2010) conducted a study on pre-service teachers as new millennium students and investigated whether they differed based on gender, grade, field and university studied. It was found that about 60% of pre-service teachers had the characteristics of new millennium learners. It was also found that being a new millennium learner is quite heterogeneous. According to Şahin's (2010) study, the level of being a millennium student significantly differs based on gender, grade, field and university. In addition, it was found in the same study that new millennium learners also differed significantly in terms of the variable of family income level and owning a computer.

Woods-Grooves (2015) conducted a study to find out the factors influencing 21st-century learners' behaviour. The study aimed to develop a human behaviour scoring scale and using this scale, the factors affecting human behaviour were identified. It was found that the involvement in disciplinary events affected determination, external influences and cognition behaviours, while absenteeism affected determination and cognition behaviours.

Williams et al. (2013) examined 15 sources such as Melbourne declaration on educational goals for young Australians, the Australian Curriculum, the Scottish curriculum for excellence, Mayer key competencies, OECD and Partnership21. These sources were found to have agreed on the following 21st-century skills, such as cooperation, innovation, high potential, a different worldview from the previous generation, self-confidence, self-efficacy and creativity. Accordingly, the researcher highlighted that the Australian education system should be renewed to prepare 21st-century learners for the 21st-century professions.

Method

This study used a quantitative research approach. Within the scope of the research, the convenience sampling method was used. As a data collection tool, the scale of 21st-century learner skills usage, which was developed by Göksün (2017) was used in the study. In order to collect the data from the sample in an ethical manner, the ethics committee approval was obtained and then the data collection process started. The questionnaire was administered online to tourism undergraduates studying at tourism faculties. The questionnaire contained 31 items in total under four factors; Cognitive Skills (17 items), Autonomous Skills (6 items), Collaboration and Flexibility Skills (6 items) and Innovation Skills (2 items). When necessary, the link to the questionnaire was sent to participants via e-mail and digital applications. The data collection was carried out in the spring term of the 2021-2022 academic year in 14 different faculties in Turkey.

Data Analysis

In the evaluation of the collected data, the addition of the scores on the scale was used as suggested by Tezbaşaran (1997). The 21st-century learner skills scale does not have any item to be reverse-coded. The data collection tool of the study was developed as a 5-point Likert-type scale and administered. Therefore, participants' responses to each item could be scored with a maximum of five points and a minimum of one point. Therefore, it is seen that the highest score that could be obtained from the 21st-century learner skills usage scale could be 155 and the lowest score could be 31 when the number of items on the scale is considered to be 31 in total. The highest and lowest scores that could be obtained from each factor can also be calculated using the same calculation method. However, this necessitated the standardization of the scores as the number of items included under each factor differed, so the average of each factor was taken as a single average. For the first research question, the mean and standard deviations of the scores obtained from the scale factors were calculated and their averages were compared on the statistical program. For the second research question, One-Way ANOVA and Independent Samples t-tests were performed.

Results

Cronbach Alpha analysis was performed on the scale and scale factors. It was found that the overall internal consistency coefficient of the data collection tool is $\alpha = ,91$. It is $\alpha = ,90$ for the Cognitive Skills factor, $\alpha = ,75$ for the autonomous skills factor, $\alpha = ,90$ for the innovation skills factor and $\alpha = ,78$ for the Collaboration and flexibility skills factor. According to Özdamar (2013), if the Cronbach alpha coefficient is between the range of 0.70 and 0.90, the data collection tool is considered to have a high level of reliability.

What is the level of tourism undergraduates' usage of 21st-century learner skills?

As mentioned before in the data analysis section, a standardized total score was obtained from the participants' 21st-century learner skills usage scale. The first research question was answered by taking the standardized total scores related to each factor obtaining the total score. The standardized scores are presented in Table 1.

Table 1. Descriptive Statistics for the 21st learner skills scale and factors

	N	Min.	Max.	Mean	Std. Dev.
Usage of Cognitive Skills	411	2,29	5,00	4,0902	,54895
Usage of Autonomous Skills	411	2,50	5,00	3,5657	,58064
Usage of Collaboration and Flexibility Skills	411	1,33	5,00	3,1541	,87940
Usage of Innovation Skills	411	1,00	5,00	4,1557	,92530
Means of the Usage of Four Factors	411	2,03	5,00	3,7414	,56258

As seen in Table 1, the rank of the scores that tourism undergraduates had from four factors regarding the usage of 21st-century skills is, from the highest to the lowest, Usage of Innovation skills (mean =4,1557), usage of Cognitive Skills (Mean= 4,0902), Usage of Autonomous Skills (Mean=3,5657) and Usage of Collaboration and Flexibility Skills (Mean= 3,1541). The main reason why the usage of innovation skills is the most used skill could be explained by the fact that participants have been born in a digital era. However, Usage of Collaboration and Flexibility Skills are the least used skills among the learner's skills compared to other skills. The mean score of tourism undergraduates received from the four factors of the scale is 3,7414, which is just above the average 3. It is also important to highlight here that the Autonomous Skills usage of tourism undergraduates is just above the average 3, the second least used skills by tourism undergraduates. It has also been found that the mean scores of tourism undergraduates for four factors are well below 5, which is the highest score to be obtained. This means that the use of 21st-century learner skills of tourism undergraduates is not at a high level and that they need to be improved.

Table 2. Independent Samples T-test Based on Gender

	F	Sig.	T
Usage of Cognitive Skills	1,774	,184	-1,499
Usage of Autonomous Skills	,009	,924	-2,575
Usage of Collaboration and Flexibility Skills	,125	,724	-,897
Usage of Innovation Skills	,198	,657	-,839
Means of the Usage of Four Factors	,877	,350	-1,725

*. The mean difference is significant at the 0.05 level.

As seen in Table 2, the Independent Samples t-test was conducted to see the tourism undergraduates' usage of 21st-century skills based on the scores received from each factor and the whole scale in general. It was found that their usage of 21st century skills do not differ based on gender (Cognitive skills= $p=,184$; Autonomous skills= $p=,924$; Collaboration and Flexibility Skills= $p=,724$; Innovation skills= $p=,657$; Average of four factor= $p=,350$).

Table 3. One-Way ANOVA Test for the Usage of Cognitive Skills Based on Departments

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3,812	3	1,271	4,319	,005
Within Groups	119,739	407	,294		
Total	123,551	410			

*. The mean difference is significant at the 0.05 level.

As seen in Table 3, a One-way ANOVA test was performed on the score that tourism undergraduates received from the factor of "Cognitive skills usage" based on their departments, and it was found that there is a significant difference among tourism undergraduates ($p<,005$). Therefore, a post hoc test was performed to find out which departments differed from one another in the usage of "Cognitive Skills". As seen in Table 4, tourism guidance

undergraduates had higher use of cognitive skills than Gastronomy undergraduates ($p<,005$) and Tourism Management undergraduates ($p<,013$)

Table 4. Post-Hoc Test for the Usage of Cognitive Skills

Department	Department	Mean Difference	Std. Error	Sig.
Travel Management	Tourism Management	,10544	,10347	,738
	Gastronomy	,17597	,11417	,414
	Tourism Guidance	-,14128	,12182	,653
Tourism Management	Travel Management	-,10544	,10347	,738
	Gastronomy	,07053	,06899	,737
	Tourism Guidance	-,24672*	,08102	,013
Gastronomy	Travel Management	-,17597	,11417	,414
	Tourism Management	-,07053	,06899	,737
	Tourism Guidance	-,31725*	,09431	,005
Tourism Guidance	Travel Management	,14128	,12182	,653
	Tourism Management	,24672*	,08102	,013
	Gastronomy	,31725*	,09431	,005

*. The mean difference is significant at the 0.05 level.

As seen in Table 5, a One-way ANOVA test was performed on the score that tourism undergraduates received from the factor of the usage of "Autonomous Skills" based on their departments, and it was found that there is a significant difference among tourism undergraduates ($p=,018$)

Table 5. One-Way ANOVA Test for the Usage of Autonomous Skills

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3,358	3	1,119	3,378	,018
Within Groups	134,869	407	,331		
Total	138,226	410			

*. The mean difference is significant at the 0.05 level.

Therefore, a post hoc test was performed to find out which departments differed from one another in the usage of "Autonomous Skills". As seen in Table 6, travel management undergraduates had higher use of Autonomous Skills than Gastronomy ($p<,011$), Tourism Management ($p<,039$) and Tourism Guidance undergraduates ($p<,039$)

Table 6. Post-Hoc Test for the Usage of Autonomous Skills

Department	Department	Mean Difference	Std. Error	Sig.
Travel Management	Tourism Management	,29341*	,10981	,039
	Gastronomy	,37427*	,12117	,011
	Tourism Guidance	,34506*	,12928	,039
Tourism Management	Travel Management	-,29341*	,10981	,039
	Gastronomy	,08086	,07322	,687
	Tourism Guidance	,05165	,08599	,932
Gastronomy	Travel Management	-,37427*	,12117	,011
	Tourism Management	-,08086	,07322	,687
	Tourism Guidance	-,02921	,10009	,991
Tourism Guidance	Travel Management	-,34506*	,12928	,039
	Tourism Management	-,05165	,08599	,932
	Gastronomy	,02921	,10009	,991

As seen in Table 7, a One-way ANOVA test was performed on the score that tourism undergraduates received from the factor of the usage of "Collaboration and Flexibility Skills" based on their departments, and it was found that there was not any significant difference among tourism undergraduates ($p=,180$)

Table 7. One-Way ANOVA Test for the Usage of Collaboration and Flexibility Skills

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3,787	3	1,262	1,640	,180
Within Groups	313,287	407	,770		
Total	317,074	410			

*. The mean difference is significant at the 0.05 level.

As seen in Table 8, a One-way ANOVA test was performed on the score that tourism undergraduates received from the factor of "Innovation Skills" based on their departments, and it was found that there was a significant difference among tourism undergraduates ($p<,005$).

Table 8. One-Way ANOVA Test for the Usage of Innovation Skills

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10,979	3	3,660	4,380	,005
Within Groups	340,055	407	,836		
Total	351,034	410			

*. The mean difference is significant at the 0.05 level.

Therefore, a post hoc test was performed to find out which departments differed from one another in the usage of "Innovation Skills". As seen in Table 9, tourism guidance undergraduates had higher use of Cognitive Skills than Gastronomy undergraduates ($p<,000$) and Tourism Management undergraduates ($p<,002$).

Table 9. Post-Hoc Test for the Usage of Innovation Skills

Department	Department	Mean Difference	Std. Error	Sig.
Travel Management	Tourism Management	,26146	,16333	,512
	Gastronomy	,38904	,17682	,174
	TourismGuidance	-,12903	,17116	,971
Tourism Management	Travel Management	-,26146	,16333	,512
	Gastronomy	,12758	,11320	,835
	TourismGuidance	-,39050*	,10415	,002
Gastronomy	Travel Management	-,38904	,17682	,174
	Tourism Management	-,12758	,11320	,835
	TourismGuidance	-,51807*	,12424	,002
TourismGuidance	Travel Management	,12903	,17116	,971
	Tourism Management	,39050*	,10415	,002
	Gastronomy	,51807*	,12424	,000

*. The mean difference is significant at the 0.05 level.

As seen in Table 10, a One-way ANOVA test was performed on the overall scores that tourism undergraduates received from the four factors based on their departments, and it was found that there was a significant difference among tourism undergraduates ($p<,005$).

Table 10. One-Way ANOVA Test for the Means of Four-Factor Usage

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4,000	3	1,333	4,315	,005
Within Groups	125,762	407	,309		
Total	129,762	410			

*. The mean difference is significant at the 0.05 level.

Therefore, a post hoc test was performed to find out which departments differed from one another in the usage of four factors in general. As seen in Table 11, tourismguidance undergraduates had significantly higher usage of four factors in general than Gastronomy undergraduates ($p < ,019$). Similarly, travel management undergraduates had significantly higher usage of four factors in general than Gastronomy undergraduates ($p < ,036$)

Table 11. Post-Hoc Test for the Means of Four-Factor Usage

Department	Department	Mean Difference	Std. Error	Sig.
Travel Management	Tourism Management	,22156	,10502	,158
	Gastronomy	,31584*	,10673	,036
	TourismGuidance	,03298	,11685	,994
Tourism Management	Travel Management	-,22156	,10502	,158
	Gastronomy	,09428	,05912	,542
	TourismGuidance	-,18857	,07590	,107
Gastronomy	Travel Management	-,31584*	,10673	,036
	Tourism Management	-,09428	,05912	,542
	TourismGuidance	-,28285*	,07824	,019
TourismGuidance	Travel Management	-,03298	,11685	,994
	Tourism Management	,18857	,07590	,107
	Gastronomy	,28285*	,07824	,019

*. The mean difference is significant at the 0.05 level.

Discussion and Conclusion

Within the framework of the research purposes, the 21st-century learner skills usage of the tourism undergraduates has been measured. The 21st-century learner skills of participants were measured under the following factors;

- * Cognitive skills
- * Autonomous skills
- * Cooperation and flexibility skills
- * Innovation skills and

The scale used in the study was developed by Göksün (2017), and so the validity and reliability analyses had already been performed and it was revealed as a valid and reliable scale. Considering that the highest score to be obtained from the scale is 5, the average score is 3 and the lowest score is 1, the obtained scores were interpreted in the study. In this context, when the usage level of 21st-century learner sub-skills by the tourism undergraduates, it was found that their usage level is at an average level (Cognitive Skills = 4.0902, Innovation Skills = 4.1557, Cooperation and Flexibility Skills = 3.1541, Autonomous Skills = 3.5657, usage of 21st-century learner skills in general = 3.7414) and they still need improvement.

Any usage score above the average can be considered an indicator that the relevant skill is used above the average level. Based on these scores, it could be claimed that tourism undergraduates use 21st-century learner skills and sub-skills above the average level. The most used skill was found to be the innovation skills, and the least used skill was found to be the collaboration and flexibility skills. These findings also reveal that their usage of 21st-century learner skills still needs to be improved when all of the sub-skills are considered to be well below 5, which is the highest score to be got.

The fact that the most used skills found in this study are innovation skills could be considered a very positive finding. At this point, it is important to take into account that the staff teaching these students is sufficient at the point of possessing innovation skills and keeping their innovation skills updated. When the Programme for International Student Assessment (PISA) results are examined, it is seen that Turkey does not rank in a good position despite the educational investments made in recent years. PISA is not an exam aiming to measure how much students understand the subject of the course, rather it measures how much students can use this information in their real lives and in the solution to life problems encountered (Anil et al., 2015). Turkey cannot find a place at the top position in the ranking of the countries created by PISA. Based on this, it could be concluded that students' use of Cognitive Skills at a relatively high level (an average of 3,7414) is not enough to solve today's real-life problems.

In the study, it was observed that tourism undergraduates use innovation and cognitive skills at a high level, but used the skills aiming to solve real-life problems, such as autonomous skills, cooperation and flexibility skills, at the average level. The finding suggesting that the tourism undergraduates use the innovation skills out of 21st-century learner skills most contradicts the findings of PISA regarding Turkey.

However, PISA is an assessment carried out every three years by the OECD. The Independent samples T-test and One-way ANOVA test were used to answer the second research question of the study “does the usage of 21st-century learner skills differ according to gender and department variables?”. The results of the analysis were compared with the dependent variable, which is the usage of 21st-century learner skills and found that it differed according to the department variable, but there is no significant difference according to the gender variable.

Tourism guidance undergraduates were found to have used cognitive and innovation skills significantly higher than gastronomy and tourism management undergraduates. The same is true for the general use of 21st-century learner skills including four sub-dimensions. Travel Management undergraduates were found to have used autonomous skills significantly higher than gastronomy undergraduates. The same is true for the general use of 21st-century learner skills including four sub-dimensions. Travel Management undergraduates were found to have used the 21st-century skills in general than gastronomy undergraduates. All higher education students in Turkey are placed through a central exam organized by OSYM (Student Selection and Placement Center), including tourism faculties.

Both the base points and the types of points of the tourism guidance and gastronomy, tourism management undergraduates differ. From this point of view, it could be considered that the candidates of the faculty of tourism are placed according to their scores taken in the placement exam and so this difference in the independent variables is mainly caused by this separation. For example, students are accepted to the tourism guidance department with a foreign language score, while students are accepted to the Gastronomy, Tourism Management and Travel Management departments with equal-weighted score types. However, the higher use of four-factor by travel management undergraduates than gastronomy undergraduates needs further investigation. In addition, it is closely related to the fact that the academic experience of undergraduate students in the faculty of tourism is different as well as the content of their curricula. It can be stated that all these variables affect the 21st-century learner skills used by tourism faculty undergraduates.

In other words, considering that their learning experiences before starting their undergraduate education are measured and they are placed in these undergraduate programs according to this measurement, each department of the faculty of tourism is homogeneous in terms of students' academic achievements; however, there is heterogeneity among departments at tourism faculties. It is thought that this heterogeneity makes a difference in the use of 21st-century learner skills.

Cognitive skills can provide solutions to many learning problems encountered in educational settings and can be transferred to skill areas such as cooperation, self-management, and self-confidence (Billing, 2007). Autonomous skills and collaboration and flexibility skills contradict each other by their nature. Autonomous skill refers to acting autonomously in learning processes based on individual skills. Collaboration, on the other hand, refers to the ability to work within a group. This makes building a clear path between autonomous skills and collaboration and flexibility skills.

The term 21st-century learner skills need more focus in the tourism context and tourism education at all educational levels as the nature of competition has been changing very quickly. All tourism businesses need to survive in a competitive environment to increase consumers' satisfaction levels. This makes the education of human resources within the sector and tourism faculties are the core organizations in raising human resources for the tourism sector. Therefore, it is important to find ways to make human resources in tourism more effective in increasing customer satisfaction. The idea of 21st-century learner skills was developed to improve students' learner skills in the field of education. Graduates of tourism faculties are supposed to have 21st-century learners skills, especially those used to gain knowledge and the ability to work efficiently specifically in the field of technology and social media. Life and career-related skills can also help tourism undergraduates prepare for their future careers. When we consider that things change very rapidly in the field of the 21st century and the world is becoming more connected with the help of technology, that businesses are becoming more competitive in all areas including tourism, the need for developing tourism undergraduates' 21st-century skills has become more important through the renewal of the curricula at tourism faculties in line with the needs of 21st century. The quickly changing nature of the tourism sector has made it more difficult for tourism businesses to survive and compete in this ever-changing business environment. The idea of examining the 21st-century learner skills of tourism faculty undergraduates was chosen in this study to develop the future tourism employees' capabilities in the field of tourism to raise consciousness about the need for the renewal of the curricula at tourism faculties and to show the way to the development of new curricula matching with the 21st-

century learner skills and to help tourism undergraduates and graduates to deal with all possible challenges in their future careers. Kim et al., (2011) conducted a study to find out the specific skills needed in the field of tourism and found that seven competencies are needed in this field;

- Practical competency,
- Adaptability to a working environment competency,
- Ability to make progress in work competency,
- Interpersonal skills,
- Active participation in social gatherings competency,
- The flexibility of time management competency and
- Foreign language and work-related learning skills.

As seen here above, the development of these skills is closely related to the 21st-century learner skills measured in this research. Furthermore, the fact that the skills that have been found weak in this research, which are collaboration and flexibility skills and autonomous skills, are the ones that need to be improved is very attention-grabbing. The findings of this research also support the findings of the study conducted by Caruana & Mcpherson (2015) on the 21st-century knowledge and skill necessary in the tourism and hospitality industries. In their study, they found that for the provision of good service, service employees employed in the sector need to have a wide range of skills including creativity, professional competency, teamwork, communication, ethical sense skills and lifelong learning. Young-Thelin & Boluk (2012) supported Caruana & Mcpherson's (2015) findings suggesting that human resource managers or general managers are supposed to organize training programs for their employees considering that guest behaviour changes continuously, and they need to be most updated, which could start with the curriculum at tourism faculties and teaching and training contents provided at undergraduate years.

This study aimed to point out the importance of helping tourism undergraduates to gain 21st-century learning skills in their university education through specifically developed and implemented life-related contents in the school curricula that could be summarized under 12 learning skills;

- Creativity and innovation skills to lead positive change in the organization in their future career.
- Initiative and self-directing skills to work with self-reliance in a dynamic environment.
- Critical thinking and problem-solving skill to be able to think carefully.
- Communication and collaboration skills in dealing with others in the business.
- Integrated learning skills to promote students' aptitude for lifelong learning
- Information literacy skills to get the needed data or information from the news, television and other social media.
- Social responsibility skill to take care of those nearby in a social context
- Media literacy skill to analyze and classify appropriate data or information
- Information communication technology skills to analyze, estimate, collect and adapt their information technology skills properly
- Flexible working skills to adapt to various roles and environments
- Productivity and accountability to complete their work within a given period and frame.

- Social and cross-cultural skills to accept the diversity of other people, understand, respect and adapt to multiculturalism.

The following suggestions could be provided regarding the curriculum renewal and implementation of tourism faculties in Turkey;

- When the sub-skills of the 21st-century learner skills usage of tourism undergraduates were examined, it is seen that the least used skill is collaboration and flexibility skill. In order to increase the use of this skill, emphasis can be placed on teamwork in the educational life of tourism undergraduates in the tourism curricula. Training can be added to the curriculum in terms of effective time management, being an active listener, dispute management and using interpersonal communication skills
- When the 21st-century learner skills were examined from the independent variables perspective, it was found that gastronomy and tourism management undergraduates' usage of 21st-century learner skills is significantly lower. Based on this, new learning experiences could be put into the curricula of gastronomy and tourism management departments to increase the usage of 21st-century learner skills.
- It is well-known that the teaching staff at tourism faculties, who are also responsible for the development of tourism curricula at tourism faculties should know well about 21st-century learner skills and in line with this, they need to improve their 21st-century teacher skills to ensure a match in the educational environment. At this point, for the teaching staff to be able to successfully analyze the target audience regarding this issue, in-service training could be organized on the 21st-century learner and teacher skills.

Declaration

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T.C.
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