

## Formation of students' communicative competence through game technology

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### Abstract

The aim of this study is to determine the creation of communicative competencies of students with game technology. The research was conducted in the fall semester of 2021–2022; the research consists of 327 volunteer students studying at universities in Kazakhstan and continuing their education. According to the sub-objectives of the research, the use of gamification technologies by university students during the day, the time spent by university students using the Internet and the situations were focused on. In the scope of the study, descriptive statistical methods were used for the development of students' communicative competencies with the gamification technology of university students. The research is a quantitative research method and is designed according to the analysis of students' views on the formation of communicative competencies on gamification technologies. According to the results of the research, it has been concluded that communicative skills increase with game technology. In addition, according to the results of the research, it was concluded that university students use the time zone on the Internet on the spot.

Keywords: University students, gamification, communicative competence;

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## 1. Introduction

In today's education society, it is possible to see the transfer and change in the education profile in almost every field. Designed to be performed remotely or face-to-face, the communicative competence of the learners and learning strategies for teaching content of the course have been mutated according to the needs and lifestyle of the period. The traditional elements in addition to technological applications in the field of language teaching have also been included (Kokorina et al., 2021). With the game training technologies, universities, high schools and other educational institutions to be discussed to what extent and in what context it is known that the subject of an important debate, and also by the increase of education oyunlastirila virtualised and consolidated together digital elements used in previous years to come to the forefront of the culture of the game in the background, supporting traditional and innovative aspects of the game out of the process and the creativity brought up the issue of integrating the teaching of language, it is known that (Salokhojaeva et al., 2021). In this context, teachers who play an active role in all the learning steps to be carried out and who are the direct designers of the designed course content and in course applications have many tasks and they need to improve their competencies within this framework (Ozcinar et al., 2019). Most people today, what we call the digital age, especially after becoming a parent relationship with technology, are more aware of the need to organise in a careful way; however, one can feel inadequate in this regard from time to time (Hommel et al., 2021). While some of the families are concerned about the fact that university students use digital technologies and come into contact with these technologies, some of them can use digital technologies as a parenting tool and leave their child alone with digital technologies, especially from an early age (Hafeez, 2021). It seems that many times families resort to technology in order to keep their children busy in order to take care of their personal affairs. Although many people use toys, books and various activities in this case, it is possible to say that the number of parents using technological gadgets is also quite large. However, while there is a decrease in the use of toys, books and activities as the child progresses in age; it can also be said that there is an increase in the use of handheld gaming devices or technologies (Tayyebi, 2021). This leads to the fact that some parents' concerns about their children becoming addicted to digital technology or social media or being exposed to unapproved content may increase over time.

Along with factors such as the spread of the Internet throughout the world, the convenience provided in obtaining information and communication and the ability to access constantly provided by smartphones and its use for communicative competencies have gradually increased. It can be said that Kahoot has been used among the communicative decency tools, which has been increasing its popularity since the day it was opened to the world. Thanks to the plugins it has, easy messaging features and the multimedia it offers, the number of Kahoot users has reached millions in a few years (Taesotikul et al., 2021). For situations of communicative competence in the expansion the roles of some important features in such a short period, Kahoot has provide an environment rich with the option of multiple users, providing a connection sharing by different sites with a single button, thanks to the realisation of providing one the opportunity to easily group events and allowing to create application environments, with options such as personal property and for our needs; the opportunity to chat online and offline; image, video, text etc. The fact that it allows us to like, share and comment on the actions we want provides important advantages for users (Tao et al., 2021). It is aimed that the use of online environments as a professional development community for communicative competencies provides an opportunity to learn together with people who are far from each other, which is an important benefit for many teachers and students.

In this sense, the question of 'development and determination of communicative competence status of university students with gamification technologies' is the problem of this study.

### 1.1 Related research

Turko et al. (2021) in the year of the work carried out a study on non-English language communication competences of students who are educated in the field of expertise and are intended to indicate the effectiveness of modern methods of creating, and as a result, the game technology, project-based technology, interactive technology, electronic system Moodle tasks and so on. By considering this value of the research, it is seen that new distance education technologies provide benefits to university students.

In the study conducted by Mikhailova et al. (2021), the purpose of the research according to the problem situation was students' intercultural professional technology-based and communication-based evaluations, which sought to determine the formation of communicative competence, and as a result of technology and natural sciences students with intercultural *oyunlastirma* professional communicative competence is seen as a very important requirement in the development of professional communication skills for students' future careers can open up great opportunities for all that they achieved. When this value is combined with the previous value, it is seen that communicative competencies are taught with new technologies.

Tkachova and Tur (2017) in the year of the professional competence of the work they have done, as well as documentation and information activities of the formation of communicative competence in future specialists to determine which is a measure of the quality of education and are intended as a didactic game as a business, and as a result, after using the basic method of students' communicative competence, qualitative indicators of positive changes in the levels of communicative competence of college students in gaming technology emerged with the reasons they achieved to the benefit and the benefit one more time is seen.

### *1.2 Purpose of the study*

The aim of this study is to determine the creation of communicative competencies of students with game technology for university students and to design them according to the research. Also, in addition to the answer to the research, other questions to be searched for are as follows:

- 1- How are the uses of game technology by university students during the day?
- 2- How often do university students spend their time using game technology?
- 3- What is the use of communicative competence activities of university students?
- 4- How often do university students spend their time using communicative competence activities?
- 5- What are the devices that university students access when using communicative competence activities and game technologies?
- 6- What are the opinions of university students about game technology and communicative competence?
- 7- Is there a significant difference between the communicative decency statuses of university students according to the class variable?

## **2. Method**

The section in the article is very important as it reveals a situation and reaches a definite answer. This section should always be well prepared and selected. When the method of the study is considered, the type and source of the data in the study, the data collection tool and the information of the statistics used in the study are included and organised.

### *2.1 Research model*

It is seen that the research is continued within the study using the descriptive statistics method, which is one of the quantitative research methods. When the descriptive statistical method is considered, it is seen that it converts figures and events into descriptive indices. It is known that it is used to summarise, organise and reduce a large number of events (Uzunboylu et al., 2009). Descriptive statistics in this

research through gaming technology with students' communicative competence with the creation of the conditions for using the determination and use of technology how to learn with the determination of the status of the investigation of using these applications on the determination; gender, class, game duration of use and communicative competence are designed according to the duration of the variables.

## 2.2. Working group/participants

The participation group included in the study consisted of 327 voluntary university students who continue their education and lives at various universities in Kazakhstan. In the research, the measurement tool was explained, applied and accepted by the students with the help of their families.

### Gender

In this section, the differences of university students according to their gender are given in Table 1.

Table 1. Distribution of university students according to the gender variable

Gender	Male		Female	
	F	%	F	%
Variable	165	50.46	162	49.54

When Table 1 is considered, the distributions of the university students participating in the study were determined according to the gender variable and the information was examined and added to the table. In this context, 50.46% (165 people) were male, while 49.54% (162 people) were female. In the gender section, the findings reflect the actual gender distribution.

### Game technology usage times during the day

In this section, the game technology usage times of Gelli university students for the development and consolidation of communicative competencies are discussed and examined, and the studied values are digitised and added to Table 2.

Table 2. The distribution of game technology usage times during the day

Game Technology Uses During the Day	1-2 hours		3-4 hours		5 or more hours	
	F	%	F	%	F	%
Variable	27	8.26	101	30.89	199	60.85

When Table 2 is examined, college students have been investigated and detailed information of use has been added to the table. In this context, 8.26% (27 people) had a usage time of 1–2 hour, 30.89% (101 people) expressed using technology for 3–4 hours and 60.85% (199 people) had a usage time of over 5 hours. In this context, it is seen that the use time of gamification technologies is in the range of 5 hours and more and prefer to use it for communicative competence within the research.

### The time periods spent by university students using game technology

In this section, the situations of university students during the time periods spent using game technology according to their daily usage time periods are investigated and examined. Detailed information is given in Table 3.

Table 3. The time periods spent by university students when using game technology

Game Technology Frequency of Use	1 hour		2 hours		3 hours		4 hours	
	F	%	F	%	F	%	F	%
Variable	5	1.53	14	4.28	78	23.85	230	70.34

When Table 3 is examined, their time frames of college students when using gaming technology is often researched, and detailed information is given in Table 3. In this context, 1.53% (5 people) used it for 1 hour, 4.28% (14 people) used it for 2 hours, 28.35% (78 people) used game technology for 3 hours and 70.34% (230 people) used game technology for 4 hours. In this context, it is seen that university students prefer to use game technology for 4 hours.

### *Class Status*

In this section, the class information of the study group of university students was examined and detailed information is given in Table 4.

Table 4. Distribution of university students according to their class status

Department	Year 2		Year 3		Year 4	
	F	%	F	%	F	%
Variable	111	33.95	109	33.33	107	32.72

When Table 4 is examined, the distribution of the study group of university students according to their class status is considered and the relevant information according to the class scale is added to the table. In this context, 33.95% (111 people) are in Year 1, 33.33% (109 persons) were in Year 2 and 32.72% (107 people) are in Year 3. In the class distributions section, the findings reflect the actual distribution.

### *2.3 Data collection tools*

In this section, it is seen that there is a measurement tool developed by the creators of the problem sentence in the research within the research. The data collection tool was examined by experts in the field of communicative competence and game technology of university students and corrected by removing unsuitable items from the study. A personal information form called the 'communicative competencies' measurement tool, which was applied to university students with the help of their families and developed by researchers, was used. The validity of the measurement tool developed in the scope of communicative competences, game technology, gadgets and technology was examined by three professors and three associate professors and unnecessary substances removed from the measurement tool and re-arrangements were made.

1. Personal information form (demographic data): In the personal information form, information such as gender, game technology usage times, game technology usage frequencies and class is provided.

2. Communicative competencies data collection tool: In order for university students to develop communicative competencies with gamification technology, a 5-point Likert-type questionnaire was prepared to receive information about their opinions. 16 items of the measurement tool consisting of a total of 18 items were used and 2 items were removed from the measurement tool, thanks to experts' opinions. The opinions of university students from three factorial dimensions were applied, such as 'gamification technology', 'communicative competencies' and 'language speaking'. The Cronbach alpha reliability coefficient of the measurement tool as a whole was calculated as 0.97. The measurement tool was rated as 'I strongly disagree' (1), 'I disagree' (2), 'I am undecided' (3), 'I agree' (4) and 'I definitely agree' (5). The measurement tool was also collected from university students in the form of an online environment.

#### 2.4 Application

In the application part of the study, 327 volunteer university students who continue their education at various university schools in Kazakhstan region were identified by the researchers, with the aim of developing communicative competencies with the help of gamification technologies. In addition to education in the school environment, it was aimed to continue using communicative competencies, gamification applications and technologies, as well as distance education activities. This situation was explained to university students. Communicative competence and training technologies dramatisation were crafted with this activity by showing people who are experts in the field of the environment. With regard to dramatisation technologies, Kahoot application received support from the research. The assessment tool was submitted to the college students, and they were provided a 4-week training in gaming technologies, communicative competence, language and comprehension, determining how often they use the practice of using technologies and various learning techniques, and how often their communicative competence is used with game technologies, etc. Such cases were provided to university students in the form of technology education, and university students were expected to participate in the event held every week on this topic. After 4 weeks of training, the measurement tool and the information form were applied to the university students and the data are given in the tables in the findings section. It is explained how university students will respond to the measurement tool collected with the help of an online questionnaire. Most of the schools of education by distance education, distributed and used by the application programme mentioned in Chapter 5 through the Zoom meeting will be limited to a maximum of 65 next week, so each designated handed out to college students are set up, each 55-minute training programme in the form of question and answer time frame 15 minutes in total 70 minutes a college student in online training that has been processed from a smartphone, tablet and laptop computers with devices such as camera and microphone by using the training were expected to attend. The measurement tool applied to university students was coded in the environment of calculation programmes and transferred to the SPSS programme.

#### 2.5 Analysis of data

Statistical data obtained from university students were analysed in the statistics programme using frequency (f), percentage (%), mean (M), standard deviation (SS), *t*-test and Kruskal–Wallis H test, with irai. The data obtained from the programme are given in tables accompanied by numerical values, findings and comments.

### 3. Findings

#### 3.1 Use cases of communicative competence activities of university students

The findings regarding the frequency of use of communicative competence activities of university students are given in Table 5.

Table 5. Communicative competence activities of university students use cases

Communicative Competence Activities	1 hour		2 hours		3 hours		4 hours	
	F	%	F	%	F	%	F	%
Variable	8	2.45	21	6.42	82	25.07	216	66.06

In Table 5, it is seen that the students participating in the study have information about the communicative competence use cases during the day. In light of this information, 2.45% (over 8 people) used it for 1 hour per day, 6.42% (21 people) used it for 2 hours a day, 25.07% (82 people) used it for 3 hours a day and 66.06% (216 people) used it for 4 hours a day. According to the above findings, it is observed that the use communicative competence activities are no more than 4 hours a day.

#### 3.2 Frequency of use of communicative competence activities of university students

The findings regarding the university students' time spent using communicative competence activities are given in Table 6.

Table 6. Frequency of use of communicative competence activities of university students

Time	F	%
1-3 hours	98	29.97
4-6 hours	108	33.03
7-9 hours	121	37.00
Total	564	100

In Table 6, it is seen that the university students participating in the study have information about the frequency of use of communicative competence activities and the findings related to their time spent. In light of this information, it can be seen that 29.97% (98 people) of college students use communicative activities for 1–3 hours per day, 33.03% (108 people) use for 4–6 hours per day and 37.00% (121 people) use for 7–9 hours per day. According to the above findings, it is observed that it is most often is 7–9 hours a day.

#### 3.3 Devices that university students use for communicative competence activities and game technologies

The findings of the study on the communicative competence activities of university students and the devices they use for game technologies are given in Table 7.

Table 7. Devices that university students use for communicative competence activities and gaming technologies

Device	F	%
Smart Phone	72	22.02
Computer	114	34.86
Tablet	141	43.12
Computer		
<b>Total</b>	<b>564</b>	<b>100</b>



In Table 7, it is seen that the university students participating in the study have information about their communicative competence activities and the devices they use for game technologies. In light of this information, it is seen that 22.02% of the students (72 people) use smartphones, 34.86% (114 people) use computers and 43.12% (141 people) use tablet computers. According to the above findings, it is observed that they use tablet computers the most.

### 3.4 Opinions of university students about game technology and communicative competence

In Table 8, descriptive statistical results consisting of 16 expressions are included in order to get the opinions of university students about game technology and communicative competence.

No	Ingredients	M	SD
1	Having friends on the platform with gamification technology makes me feel good about myself.	4.44	0.65
2	I use gamification technology for language development and for chatting with my friends who are in college.	4.52	0.63
3	I have seen that my communicative competence skills have improved with this technology	4.47	0.63
4	I have never had any difficulty developing my communicative competence	4.38	0.69
5	I was able to get support when I had problems with the platform and technology I was using	4.64	0.66
6	I think that using gaming technologies, I get rid of being alone and spending free time	4.34	0.61
7	I believe that my communicative competence increases with each race I participate in with game technologies	4.36	0.73
8	I can see each event on the game technologies platform.	4.34	0.65
9	I use game technologies in my lessons.	4.41	0.63
10	Learning the scientific meanings of language in communicative competence with technology gives me pleasure and happiness	4.61	0.74
11	I believe that communicative competencies improve my ability to position and express myself	4.36	0.62
12	I am happy to participate in communicative competence groups.	4.46	0.63
13	I would like to comment on gamification technologies.	4.72	0.58
14	I would like to like the medals I won in gamification technology to be appreciated.	4.53	0.63
15	I use it to spend time with my friends with game technology	4.77	0.55
16	I would be happy to see this technology made in my other courses	4.44	0.65
Grand Total		4.49	0.64

As can be seen from Table 8, the results determining the game technology and communicative competence views of university students are included. After the work, according to the findings of the assessment tool, although there was a significant difference in most expressions, the most obvious expression of the students was 'gaming with the technology I use to spend time with my friends', which had an average score of M=4.77. In addition, it is seen that one of the most obvious statements of university students is 'I like it when I comment on gamification technologies', with an average score of M=4.72. In addition, it is seen that one of the most obvious statements of university students is 'I was able to get support when I had problems with the platform and technology I used', with an average score of M=4.64. In addition, from the statements of university students, it is seen that 'Learning the scientific meanings of language in communicative competence with technology gives me pleasure and happiness'



has an average of M=4.61. It is also seen from the statements of university students that 'I have seen that my Communicative Competence skills have improved with this technology' has an average of M=4.47. It is seen that each value of the research is high.

Finally, it is seen that the overall average of university students is M=4.49. College students with their opinions about the results obtained are seen to be positive with regard to communicative competence in gaming technology, while also using the game, including all the findings about the technologies, the meaning of communicative competence and language technology and with the development of speaking skills, such as the strengthening of significant value.

### 3.5 Communicative competence status of university students according to class variable

Table 9 shows the results of the Kruskal–Wallis H test to determine the results of the comparison of communicative competence status according to the university class variable.

Table 9. Communicative competence status of university students according to the class variable

	Class	N	Rank Average	SD	$\chi^2$	P
Communicative Competence Situations	Year 1	111	3.61	.501	4.24	.000
	Year 2	109	4.17	.4922		
	Year 3	107	4.30	.872		
	Toplam	327	4.07	.562		

As seen in Table 9, the results of the cross-class comparison of the social media use status of university students during the day were included and a significant difference was found between the classes ( $\chi^2 = 4.24$ ;  $P=.000$ ;  $P<0.05$ ). According to the findings, 'Year 3' students of the university who are studying have the highest average of their communicative competence status according to the class variable ( $M=4.30$ ). Again, according to the results of the study, the second highest was Year 2 when other classes are considered to have an average score of  $M =4.17$ . The department where there are university students studying with lowest perception ( $M =3.61$ ) was Year 1.

## 4. Discussion

Kondratieva et al. (2021) in the year of the work created the necessary professional qualifications in teaching Russian to foreign students and sought to analyse the use of business games which simulate the real situation, and as a result, free communication, fascinating and exciting game processes in learning the local language communication skills of students with language barriers contributed to the development of other conditions. In this context, when this value is combined with the result of the research, it is seen that the game technology has a positive effect on the students. In this context, it can be said that this technology contributes and benefits university students.

In the study conducted by Kyrpychenko et al. (2021), they aimed to study the essence and structure of communicative competence in the formation system when teaching foreign languages to higher education economics students in this research, and as a result, the results of linguistic, psychological, psycholinguistic and methodological analysis competencies were obtained. When this value was combined with the results of the research, it was found that the linguistic competencies of the students improved and they wanted to see this method in other courses. Considering both values in research, it should be noted that new methods and new techniques have always been created for university students to take them one step forward.

Sergeevna (2021) stated that 'communicative competence is a tool to enhance the introduction of new educational technologies and, as a result of the issue of digital storytelling educational technology aims to investigate students', motivating foreign language learning first-year students to adapt to the academic environment, which has a positive effect on the process kanitlidig. The results were achieved. In this context, the value of gaming technologies and communicative competence of the state of the research

students with the highest results in each of the participating college students in separate classes, even if they have a positive meaning of this technology to be loved, and to learn the most important finding, and as a result has taken place.

## 5. Results

When the results of the studies are examined, first, it is seen that the concept of gender research is the backbone and the numbers to the right of granting and transfer are of importance. The problem situation is expressed with the numbers when the numeric value of the results of the survey will be of significance to be more direct. In this context a total of 327, 165 male and 162 female, college students participated in the study. Another important value of the research is that university students' gamification usage times were questioned and investigated, and as a result, it was concluded that they used gamification technology for 5 hours and more at the most. In this research, this value is of importance because it is aimed to transfer and develop gaming technologies, language knowledge and communicative competence situations. Regarding these results, the value of each college students their time frames when using gaming technology is often researched. As a result of their usage hours during the day, up to 4 hours frequency of college students was preferred and this value with the previous value in the event of communicative competence supports that this activity will increase with one.

Another valuable result of the research of the students who participated in the research in the days of communicative competence of knowledge showed that their usage was up to 4 hours. If the value is positive, the surveyed college students' communicative competence and their activities were investigated and the results for frequency of use showed that they preferred 7–9 hours per day. As the result, the outcome has been achieved when the value is combined with previous values. In this context, it is observed that the results from both high activities against both communicative competences dramatisation are seen to be high, while another significant value activity and communicative competence of the college students surveyed showed that 141 persons preferred using tablet computers for gaming technologies. If the value is another game for college students technology and research for the determination of the opinion of communicative competence have been investigated, and after work, according to the results they have made to the assessment tool with the technology they used to spend time gaming with their friends, they go dramatisation like to comment on the technology they use when they have a problem in the technology platform and support they could get them to learn the meanings of scientific language communicative competence in technology are giving pleasure to, positive and strong results were achieved as they used every finding about game technologies, communicative competencies with technology gained meaning and language knowledge improved, speech skills strengthened. By deciphering the final result of the research, the results of the cross-class comparison of the social media use situations of university students during the day were included and it is seen that there is a significant difference between the classes of university students. According to the results, 'Year 3' showed that the communicative competence status of the university students studying according to the class variable has the highest average.

## 6. Recommendations

Conducting a version of this research in another region is recommended. It is also recommended to accurately convey and ensure communicative competencies with university students. In addition, it is thought that this study may shed light on other studies in terms of different variables in societies where university students implement and perform using different gamification technologies. It is recommended to conduct the research by taking into account other disability groups. In addition, as a recommendation for research, it is recommended that the benefits of university students be compared with that of this study.

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