

Developing the imagination of primary school students through media technologies

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Abstract

In this study, it is aimed to develop the imagination of primary school students with media technologies and to design it. The research was carried out in the fall semester of 2021–2022. The study with the participation of 346 primary school students was conducted in a screening model. In the study, 4 weeks of training for creating ideas with media technologies were given to primary school students online. In the study, the media technologies measurement tool developed by the researchers was used to collect data. The data collection tool used in the study was reached and collected with the help of their families using an online method. The analysis of the data was carried out using the SPSS programme; frequency analysis was carried out using the *t*-test; and the results obtained were added to the study accompanied by tables. As a result of the research, it was concluded that primary school students use media technologies closely and that their imagination powers are strengthened by developing their intelligence with these technologies.

Keywords: Primary school students, media technologies, distance education, imagination;

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1. Introduction

Nowadays, the Internet and digital devices make it easier to access most education level data, and it is known that they allow us to shape our information and, as a result, move on to the event. The importance of digital environments has become undeniable with the development of technology (Makharova et al., 2022). With this innovation, not only our reading, writing and speaking skills have changed, but also the ways in which we use our creative thinking and speaking skills have changed. Technology has an important role in determining the change that education has experienced and will experience (Monica Cristina Garbin et al., 2021). It is known that learning takes place in today's society by changing rapidly, and with technology, everything has started to become electronic from the past to the present, and it is known that education is also affected by this electronisation (Salama et al., 2020).

Technology literacy, along with the world, has become more widely understood, as well as with people's basic literacy skills, technology performance has become necessary. Technology creates environment-oriented skills (21); it is known to create century skills (Markoska, 2021); it is known to create the use of computer applications for various purposes with basic skills that allow one to use technology and media technologies tools (Babalola et al., 2022). As media technologies develop, it is obvious that getting an education requires different technology literacy skills. In this case, technology literacy is a skill that speeds up learning processes through technology (21). By using technology, especially the possibilities offered by the computer, in educational settings, it is expected that technology literacy skills included in the century skills will develop (Ricoy et al., 2022).

Children from the first year of their life are met with technology, technological tools and vehicles. They are a new generation exploring the use of digital tools in a short period of time, by doing and experiencing, independent, game-based learning, and are capable of multiple operations. The quality of education through educational technology is known to have been adopted around the world where constructivist activities will be carried out (Coddington et al., 2021).

Along with the focusing and implementing approach, students have been removed from a passive position through the opportunities offered by educational technologies. Students who can acquire and explore information have been trained for thinking and creating goals, and now students have emerged from a framework of individuals that the education system has designed to teach. It is aimed to educate individuals who show that they are members of the information society, i.e., who know how to access information, use information and produce new information (Walker et al., 2021). It is inevitable that the generation that is so closely related to technology will benefit from it. Electronic books can positively improve children's attitudes towards reading; they can also support children's creativity with early reading, while technological stories created by elementary school students require a process in which they are active. In the narration of media environments, individuals shape their stories by not being in the position of listeners; they interact with their stories and use information and communication technologies as a storytelling tool (Collier et al., 2021).

It is known that the technology used in primary education should correspond to the features of mental and spiritual development of children, concretely objects, mentally. Nowadays, technology is used for elementary school students, not just for physical and mental development of children, but for social skills and behaviour and family relationships, without damage to most accurate, adequate and known to be more beneficial to think of how we can effectively use it (Lola, 2021). In this period

of constant and urgent change, development and technology, innovations in technological devices are attracting more and more attention, especially among children from the age of primary education. With increasing access to the Internet, children are using the Internet for various activities: watching cartoons, playing games, communicating, accessing information, sharing and having fun, as well as for non-purposeful reasons (Tyng et al., 2021). But excessive Internet use, which begins with the influence of peers at the primary school age, causes failure in school, behaviour such as non-compliance with the rules, a tendency to be violent, miscommunication, environmental insensitivity and asocial attitudes. Thus, the self-esteem of children is shaped for these reasons. The child's encounter with the computer, which has taken place in the lives of almost all families today, also begins at an early stage. All the developments in the field of information technology have led to the fact that the beginning of Internet use has come down to the preschool period (Marlowe et al., 2021). The Internet provides an environment for solving problems faced by children, giving priority to children's adaptation and integration into society. Children's encounters with physical or social obstacles can cause introversion.

It is known that the Internet and media addiction increases in cases such as ensuring compliance of primary school students through the Internet and lack of support in this process. It is stated that Internet addiction is the most negatively affecting children in the use of media technologies (Serra et al., 2021). It is known that Internet addiction manifests itself with symptoms such as no limits on children's Internet use, continued use, ignoring their social or academic harm, and children experience different disorders when their access to the Internet is blocked. It has been suggested that the rapid spread of Internet use also increases abuse and addiction. In order to avoid this situation, this study will continue to be patterned with the aim of developing the imagination of primary school students with media technologies.

1.1 *Related Research*

Tsortanidou et al. (2020), in primary and secondary schools, carried out a study on creative and emotional learning, and sought to unify the convergence between media literacy and awareness to criticise the issues, and as a result, this technology on students' creative pedagogy, media literacy and social-emotional skills supports the relationship between positive results.

Kancanada et al. (2021) conducted a study on the traditional physical education class through the love of the game re-facility technology to improve its compliance with the children's act, intending to increase children's thinking and development focus in this age of technology and media for learning as a result of the traditional games that are used in a very good way for the students to learn that they achieved. In this context, it is seen that technology affects the thinking abilities of students, thanks to the technology and the technology that provides benefits in a course that requires conditioning such as the physical education course.

Aldalalah's (2021) study on the development of digital skills and awareness among elementary school students in calismali linguistic intelligence and their effectiveness is on the different patterns of linguistic intelligence showed significantly better performance than those in the story have reached positive conclusions. In addition, according to the results of the research, it was concluded that the thinking ability of primary school students with digital story technology strengthens their imagination skills.

1.2 Purpose of the study

The general purpose of this research is to develop and design the imagination of primary school students with media technologies. In order to reach the problem situation in the research, answers to the following questions were sought:

1. How are the media technology usage situations of primary school students?
2. How are the imagination (asynchronous) use cases of elementary school students?
3. What are the devices primary school students use and prefer for distance education?
4. Is there a significant difference according to the gender variable of primary school students and their media technology status?
5. What are the opinions of primary school students on media technologies and imagination?

2. Method

The information about the methods of the research, the methods to be applied in the study, the study group, the type and source of the data, the data collection tools and the statistics used in the research are provided in this section.

2.1 Research Model

Most of the research discussed in the method of the model is seen as located under the scanning model of quantitative research methods. This research also used the screening method, which is the method of scanning in the investigation of incidents with a focus on quantitative research methods and is known as a research model (Uzunboylu et al., 2021). In other words, it can be called a model of reaching a conclusion about the research by obtaining information from people with the help of surveys and appealing to people by collecting information.

2.2. Working group/participants

In the research, in order to determine the level of knowledge of primary school students on distance education, the Google Meet application programme was used. The study group consisted of 346 voluntary primary school students who continue their education in primary school classes in the Kazakhstan region. The measurement tool used in the study was applied to 346 elementary school students and was accepted.

Gender

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

Table 1. Distribution of primary school students by gender

Gender	Boy		Girl	
	F	%	F	%
Variable	181	52.32	165	47.68

As shown in Table 1, the data of the primary school students, called the study group and the research participants, according to the gender variable were examined. In this context, 50.64% (181 people) of them were male and 47.68% (165 people) of them were female. In the gender section, the findings reflect the actual gender distribution.

Media technology use cases

In this section, the media technology usage situations of primary school students who continue their education in Kazakhstan region within 1 day were investigated and examined. Detailed information is given in Table 2.

Table 2. Media technology usage status of primary school students

Uses of Media Technologies During the Day	1-3 hours		4-7 hours		8 or more hours	
	F	%	F	%	F	%
	Variable	21	6.07	147	42.48	178

When Table 2 is examined and discussed, the working group of elementary school students' media technology use cases within days is often taken up by examining the relevant information. In this context, 6.07% (21 people) expressed that the time of use was 1–3 hours, 42.48% (178 persons) stated 4–7 hours, and 51.45% (178 people) stated that they were using the technology and media for over 8 hours. In this context, students mostly use technology during the day for up to 8 hours. The findings reflect the real distribution of media technology use cases.

Class Status

In this section, the class status of the primary school students in the study group was examined and detailed information is given in Table 3.

Table 3 Distribution of primary school students according to their class status

Department	Grade 2		Grade 3		Grade 4	
	F	%	F	%	F	%
Variable	101	29.19	98	28.32	147	42.49

When Table 3 is examined, the distribution of the primary school students in the study group according to their class status is considered and the relevant information according to the class scale is added to the table. In this context, 29.19% (101 people) were in grade 2, 28.32% (98 people) were in grade 3 and 42.49% (147 people) were in grade 4. In the class situations section, the findings reflect the actual distribution.

2.3 Data collection tools

The data collection tool used in the study was created by the people who put the research forward, while the data collection tool was simplified by removing inappropriate items from the study by examining them by experts within the scope of imagination and media technologies. The data collection tool was used as a personal information form called the 'media technologies' measurement tool of primary school students, which was applied to university students with the help of their families and developed by researchers. The validity of the scope of the measurement tool developed was examined by three professors, who conducted studies on imagination and media technologies, and three associate professors, who are experts with the title of associate professor, and unnecessary items were removed from the measurement tool and rearrangements were made.

1. Personal information form (demographic data): In the personal information form, information such as gender, media technologies, devices they use for distance education and class are provided.

2. Media technologies data collection tool: A 5-point Likert-type questionnaire was prepared for the development of the imagination abilities of primary school students and for the development of these competencies with media technology, as well as for obtaining information about their opinions. A total of 17 items of the measurement tool consisting of 19 items were used and 2 items were removed from the measurement tool, thanks to experts' opinions. The opinions of primary school students from three factorial dimensions were applied, such as 'imagination', 'media technologies' and 'distance education'. The Cronbach alpha reliability coefficient of the measurement tool as a whole was calculated as 0.97. The measurement tool is 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 collected online with the help of primary school students and their families.

2.4 Application

The research was conducted with the help of primary schools in the Kazakhstan region. A total of 346 voluntary primary school students continuing their education and training in the region with live classes and training experts in the field of distance education for those who are prepared showing the environment. The environment is organised by the research training as the part is completed when the visuals for media technology education for elementary school students is scheduled to be shown in the scope and imagination. With 4 weeks of education, primary school students are offered 'media technologies', 'imagination' 'distance education systems', etc. Such information was provided to elementary school students in the form of distance education, and elementary school students were expected to participate with the help of their families by giving performance assignments every week on this topic. The assignments were collected online.

The assignments were prepared online in order to ensure a better consolidation of the subject. After 4 weeks of training, the measurement tool and the information form were applied to the elementary school students and the data are given in the tables and findings section. Section 5 of the most elementary of education designated application programme through Google Preferred Backes each section so next week will be limited to a maximum of 74 elementary school students is set to be distributed to each training programme training of 40 minutes, with 15 minute for question and answer in the time frame that has been processed in the form of a total of 55 minutes of elementary school students online education. Devices such as tablet, phone, computer and microphone were expected while attending training. The measurement tool applied to primary school students was collected through an online questionnaire and transferred to the SPSS programme by coding them in the environment of calculation programmes.

2.5 Analysis of Data

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

3. Findings

3.1 The use of imagination (asynchronous) of primary school students

Findings regarding the use of imagination (asynchronous) of primary school students by university students are given in Table 4.

Table 4. The use of imagination (asynchronous) of primary school students

Imagination (Asynchronous)	1 hour		2 hours		3 hours		4 hours	
	F	%	F	%	F	%	F	%
Variable	14	4.05	56	16.18	97	28.03	179	51.74

In Table 4, it is seen that the primary school students participating in the study have information about their imagination (asynchronous) use cases. It is aimed that this information will bring students closer to media technologies, as well as strengthen their imagination, generation and building skills. In light of this information, 1 hour per day for imagination and induction was selected by records 4.05% of elementary school students (14 people); 2 hours a day for asynchronous imagination of elementary school students was selected by 16.18% (56 people); 3 hours a day with the other findings of the research imagination of elementary school students was selected by 28.03% (97 people); the final results of the research showed that 51.74% (179 people) of elementary school students chose 4 hours a day for asynchronous imagination. According to the above findings, it was observed that students use and choose the asynchronous of their imagination no more than 4 hours a day.

3.2 Devices That Primary School Students Use and Prefer for Distance Education

In this section, the electronic devices that primary school students use and prefer for distance education classes prepared for them are investigated and the relevant information is given in table 5.

Table 5. The devices that primary school students use and prefer for distance education

Their Preferred Devices Are	Smartphone		Laptops		Tablet Computers	
	F	%	F	%	F	%
Variable	239	69.08	57	16.47	50	14.45

In Table 5, it is seen that primary school students participating in the study have information about the devices they use for distance education activities and live lessons. According to this information, it is seen that 69.08% of the students (239 people) use smartphones, 16.47% of the primary school students (57 people) use Laptops and 14.45% of the primary school students (50 people) use tablet computers. According to the above findings, there are also 239 people who use and prefer smartphones the most.

3.3 Media technologies status of primary school students according to gender variable

In this section, the data obtained from the study and the comparison of media technologies situations with the gender variable of primary school students were investigated and detailed information is given in Table 6.

Table 6. The effects of media technologies on the gender variable of primary school students

	Gender	N	M	SD	Df	t	p
Media Technologies	Boy	181	4.59	0.12	346	0.242	.016
	Girl	165	4.39	0.19			

When Table 6 is examined, the media technology status of primary school students according to the gender variable is examined and it is seen that it leads to a statistically significant differentiation according to the findings [$t(346)=0.242$, $p<.05$]. When the media technology situations of primary school students are examined, it is seen that the average score of male students in this field is $M=4.59$, while the average score of female students in media technology situations is $M=4.39$. In this context, it can be said that there is a significant difference between the scores of male primary school students and media technologies compared to female students in this study and that the findings of the study that male primary school students are high.

3.4 Opinions of primary school students about media technologies and imagination

In this section, the opinions of primary school students about media technologies and the right to imagination after the end of the education were taken by means of an online questionnaire and examined. Detailed information about the opinions is presented in Table 7.

In Table 7, the opinions of elementary school students on media technology and imagination are examined. It is observed that the views of each answer carry a different meaning, although the education of elementary school students after the imagination of their opinions regarding the views of media are high technology and it can be said that, from the most obvious expression, 'my imagination ability I'll see if I stay empty applications' had a score of $M=4.75$. In addition, it was found that one of the most obvious expressions of the research was 'I know who to consult when I have problems with media Technologies and instructional technologies', with $M=4.71$. It is seen that the values about the opinions of primary school students about the field are quite high. Another finding is 'It is easy to access information with media technologies' with a score of $M=4.62$. Another finding of the research was that 'It gives me pleasure to produce imagination with technology', with $M=4.58$, and 'My knowledge treasure has developed thanks to Media Technologies', with $M=4.47$. In addition, another value of the research, 'I always see quality information with media technologies and imagination' was $M=4.46$, and finally, when the overall average is considered, it is seen that $M=4.46$ was reached.

Table 7. Opinions of primary school students about media technologies and imagination

No	Updated opinions of university students about teaching technologies	M	S
1	It is easy to access information with media technologies	4.62	0.52
2	I always see quality information with media technologies and imagination	4.46	0.57
3	I can easily learn regional economic relations with Media Technologies	4.31	0.63
4	I can use Media Technologies whenever I want	4.49	0.58
5	It gives me pleasure to produce imagination with technology	4.58	0.72
6	Media Technologies my feelings gain meaning with teaching technologies	4.34	0.69
7	Thanks to Media Technologies, my knowledge base has improved	4.47	0.59
8	I can easily explain and understand any topic with media technologies	4.43	0.65
9	I also look at my imagination when I'm empty of applications	4.75	0.72
10	It gives me pleasure to spend time at events with Media Technologies	4.36	0.69
11	I use imagination more easily with media technologies	4.34	0.74
12	Thanks to imagination, I can easily create ideas with my family and	4.34	0.61

	support my family		
13	I can easily transfer something to my friends with Media Technologies	4.39	0.69
14	I know who to consult when I have problems with media Technologies and instructional technologies	4.71	0.65
15	I would have liked to explore Media Technologies earlier	4.53	0.61
16	With my imagination ability, I spend more time with my family in the evenings	4.35	0.57
17	I would also like to see these activities and applications shown to me in my other live classes	4.43	0.63
	Overall Average	4.46	0.63

When Table 7 was examined, it was found that primary school students stated that their media technology and imagination education was good; this situation benefited them; they also wanted to see this application in other courses besides field courses and they responded positively to many more. In this context, it can be said based on the findings that the updated imagination and media technology situations of primary school students are good and positive because all the values in Table 7 have a positive meaning.

4. Discussion

Nezhuya et al. (2022) in the year the work they have done in acclimation, literature has attempted to approach technology in education on elementary school students, and as a result, elementary school students, especially with the help of technology to create and edit their own texts, they achieved the development of the skill and imagination of discovering these words. In this context, the literature on group technology is a course that provides benefit, such as verbal benefit, to primary school students. When the results of the research are considered, it is concluded that creativity and imagination are successful in primary school students. While it is seen that the trainings provided with media technologies provide benefits and benefits to elementary school students, it is seen that such trainings exhibit and offer different thinking skills and abilities to elementary school students. In addition, it is thought that the research will shed light on future studies while contributing to the literature.

Cheng et al. (2018), in the year of digital storytelling, carried out a project that examined the learning processes of students participating in a research study of scientific imagination, which intended to be addressed in an application, and as a result, fluid interactive learning environments and digital literacy students in the development of the scientific imagination to explore different ideas reached positive conclusions and the binding is very important in developing their abilities. According to the results of the research, it is seen that when this value is combined, the imagination of primary school students develops and positive and strong values are achieved by evaluating them in different time periods with their families and these media technologies. As can be understood from the context of the word media technologies, the knowledge and skills of students about pleasure, skills and application trainings are strengthened in the sense of strong words. In this context, the place of common positive values in research in students' lives is both inevitable and indispensable.

Tsortanidou et al. (2021) in the work they have carried out in the year of inspired, creative teaching methods and low-tech upper elementary writing prototiplen reads sought to determine how students in school supports the development of new media, and inspired to work as a result, the hyper-creative learning trajectories, especially in low-tech learning environment is effective in the students as they are happy and satisfied and positive results have been achieved in this technology. When this value is combined with the results of the research, it is seen that primary school students are happy with the research that they want to see in this technology in the decadel of other courses, thanks to media technologies, a bond between them and their families has developed and positive and strong results have been achieved.

With a single value and each value in a separate research result, it is observed that the students with the technology show the development of creative ideas. While this research is expected to shed light on future research, media technologies in the research of the state of primary school students be reconciled with their families and used by researchers as the most powerful aspect of the research to be seen. A safe harbour of refuge for a child and family is a door and communication with their parents as role models in such an environment will increase with technology capabilities and enhance the power of imagination with their families this context, according to recent research, the importance of a post.

5. Results

When the results part of the study is considered, it is seen that the number of participants comes first according to the problem situation of the study, and the number of participants is important for researchers and research. In this context, when the results of the study were considered, it was concluded that 181 male and 165 female primary school students participated in the gender variable test of primary school students, with 346 primary school students in total. Another outcome of the research discussed in the working group of elementary school students media technology use cases within days, and as a result, during the day, up to 8 hours of media technology use cases reached the conclusion that it is over. In this context, it has been concluded that while the media technology use cases during the day are given as 8 hours, the research also contributes to the problem situation. Another result of this study conducted on primary school students is that the distribution of primary school students in the study group according to their class status was investigated and as a result, it is seen that the class is not included; the primary school students included in the study were from grades 2 to 4, while it was seen that the class was determined as the fourth most students. Another outcome of the research discussed was the imagination of elementary school students (asynchronous) use cases; the information is researched and 4 hours was chosen by elementary school students with a more asynchronous imagination.

Another important result of the study was how the live lessons and activities of elementary school students were accessed and researched in distance education, and as a result, according to the findings, most of them used smartphones (239 people). In addition, there is value in this technology because it is uses almost every value that has shrunk and is thought to be essential for primary school students. Another value of the research is that the gender variable of primary school students was examined in the case of media technologies, and as a result, it was concluded that it led to a statistically significant differentiation. When examining the media technology situations of primary school students, it can be said that the average score of male students in this field is higher than the average score of female students in media technology situations, and it can also be said that the results of the study, where both male and female primary school students are high, are the same. When discussing the final results of the study, after study of elementary school students, media technology and imagination, we researched and noted the views of each answer carries a different

meaning, although after the education of elementary school students, media technology and the high results were achieved regarding their opinions of the views of the imagination; with the imagination of elementary school students they separated the ability to idle time applications, and technologies of distance education media technology; they know who to turn to when they had a problem with; it is easy to access information with media technologies; it gives them pleasure to produce imagination with technology, thanks to media technologies, it seems that the treasures of knowledge benefit them; they also want to see this application in other courses besides field courses; and many more positive responses have been reached.

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