Formation of the ability to organise learning technologies of future teachers through innovative methods

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Abstract

The aim of this study is to evaluate the ability of future teachers to organise learning technologies with innovative methods. The research was carried out in the spring term of 2021–2022. The research consists of 236 students studying at universities in Kazakhstan, continuing their education. The use of innovative technologies during the day, the time spent using instructional technologies, and the situations were highlighted as sub-objectives of the research. The research uses a quantitative research method and was designed according to the analysis of the participant groups' views on innovative technology and learning technologies. According to the findings of the study, it was concluded that innovative technology views and skills have increased. In addition to the results of the research, it was concluded that they used learning technologies in the appropriate time frame.

Keywords: Innovative technology, teacher candidate, learning technologies, distance education;

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1. Introduction

In the times we live in, it is known that accessing technology and information and learning technology quickly has meaning in education for the growth and advancement of students (Gürbüz et al., 2022). It is known and seen that the changes in education and instructional technologies, getting used to and the invitation to innovative technologies have increased. It is also known that changing education with informatics, distance education and e-learning increases the contributions of the teachers of the future (Gondo & Mtemeri, 2022). In addition to educational technologies, it is known and accepted as a model that developing the use of computer and technology and designing the dimensions of education technology, learning and education in an emphasised way come to the fore in learning and teaching and answers the problems and increases the quality and permanence of learning materials (AL-Momani & Jawarneh, 2022).

The primary goal of instructional and educational technology is to transfer it to people who are permanently educated together with the education recipients. It is thought that the system of various portfolios will be too incomplete without using educational technologies (Axmedov et al., 2021). Immediate developments in communication technologies in the era of communication and information and technology affect the size and form of education and help educators develop new education programmes and learning-teaching models. One of the various programmes is distance education, and the application of distance education has started to become widespread in the form of e-learning. In this context, how to realise the most effective distance education and training has led experts and organisations to develop education programmes and to think about education management systems (Yuldashev, 2021).

Educational technology systems provide functions such as transferring material, managing the given training material, studying and discussing the seminar catalogue, taking homework, taking exams, organising training and learning materials as feedback about these assignments and exams, keeping student trainer and system records and getting reports (Babanazarovich & Rashidovna, 2021). Educational technologies are to simplify e-learning services and to perform them in a more regular and planned manner. As learning activities are evaluated through these systems, the way of learning is constantly improved. Since it also monitors the services created by the student, learners are assisted when necessary (Discutido & Especi, 2022).

Awareness of the vision of the schools and educational households where education and training activities of the students who reflect the educational scrapbook has become a model by developing education in the time of informatics, with the educators working in these schools in general and educational institutions in particular. The level of adopting the vision and the implementation of practices that serve this vision are other important issues that need to be addressed (Alisherovich & Toshboyeva, 2021).

In addition to the above information, it can be stated that educational technologies bring forward two important points regarding the vision. At the beginning of the additional options, together with the approach of the institution to the educators, the second option is the attitudes of the educators towards the students (Mirzayeva, 2021). The time frame for determining educational technologies requires considering the current situation and predicting the future (Alijon et al., 2022).

If we are talking about the inevitability of success and transformation, if there is a future that uses and produces education and training technologies, schools have to take into account the diffusion of educational technologies while determining the visions of institutions. In parallel, it can be said that every country and every institution should create their own vision of educational technologies (Thrassou et al., 2022). Otherwise the mission of effective educational technologies will support and increase the aims of institutions in terms of learning, teaching, management and practice, which will complement the beliefs and values of the institution (Yeni & Can, 2022).

In this sense, it is seen that this article will continue by looking for the aim of 'creating the ability of future teachers to organise learning technologies with innovative methods' and to develop and focus on the problem situation by explaining their support and innovative trends to them.

1.1. Related studies

Kononets et al. (2020) aimed to investigate the problem of introducing the information environment as a holistic dynamic process to organise and encourage students' independent cognitive activities in order to master the skills of active transformation of the information environment; as a result, after the implementation of the system, they reached the conclusion that the quantitative indicators of the pedagogical experiment were less in the control group than the experimental group, and the experimental group was more successful.

Pogrebinskaya et al. (2021) aimed to determine in advance the need to modernise teaching styles, methods and tools, taking into account the current level of development of Internet technologies and information communication; as a result, it was concluded that the use of Internet and mobile learning technologies has an impact on the formation of leadership competence in management students.

Gruzdeva et al. (2020) focused on the essence of modern educational technologies and aimed to introduce the concept of 'educational technologies'; as a result, they achieved favourable results based on the experience of designing, applying, evaluating, correcting and then duplicating the teaching and training process and using innovative methods.

It is thought that the studies mentioned in the related research section constitute the continuation of the introductory part, and these approaches, which are aimed for the educators and students to be more successful, always take their place as a light. In this study, it is expected that the same service will be given to both educators and students.

1.2. The purpose of the study

The aim of this study was designed according to the creation of the ability of future teachers to organise learning technologies with innovative methods. In addition to the answer of the research, other questions to be sought are as follows:

1- What is the Internet usage of the participant groups participating in the research during the day?

2- How often do the participant groups spend time using learning technologies applications?

3- What are the devices accessed by the participant groups while using problem state activities?

4- What are the opinions of the participant groups participating in the research on learning technologies with innovative methods?

5- Is there a significant difference between the learning technologies statuses of the participant groups according to the class variable?

2. Method

The method section should be well prepared and chosen in order to reveal a situation and reach a definite answer. In this section, the type and source of the data in the research, the data collection tool and the information of the statistics used in the research are included and arranged.

2.1. Research model

In this study, which was composed by the researchers, it is seen that the quantitative research method is used and detailed information about this subject is given. When the quantitative research method is considered, it is seen that it turns numbers and events into descriptive indexes. It is known that it is used to summarise, organise and reduce a large number of events (Ozcan & Uzunboylu, 2020). In this research, the determination of the creation of the ability of future teachers to organise learning technologies with innovative methods was designed according to the variables of gender, class, Internet and learning technologies' usage time.

2.2. Working group/participants

The participant group included in the research consisted of 236 volunteer teacher candidates who continue their education and training at various universities in Kazakhstan. In the research, the data collection tool was applied and accepted with a Google survey.

2.2.1. Gender

In this section, it is seen that the people who make up the study group are added to Table 1 by making distinctions according to the gender variable.

Table 1. Distribution of the participant groups included in the research by the gender variable

Gender	Male		Female	
	F	%	F	%
Variable	119	50.42	117	49.58

When Table 1 is examined, it is seen that the gender data of the participant groups participating in the research are given. 117 people are female and 119 are male. In this section, the findings reflect the actual gender distribution.

2.2.2. Internet usage times of the participants in the study during the day

In this section, Internet usage times during the day are discussed and analysed and the values are digitised and added to Table 2.

Table 2. Internet usage times during the day

Internet usage times	1–2 hours		3–4 hours		5 hours or more	
	F	%	F	%	F	%
Variable	18	7.63	63	26.69	155	65.68

When Table 2 is examined, the usage times of the participant groups participating in the research are examined and detailed information is added. 7.63% (18 people) stated that they use the Internet for 1– hours, 26.69% (63 people) stated that they use Internet for 3–4 hours and 65.68% (155 people) stated that they use the internet for 5 hours or more. It is seen that majority preferred to use the Internet for 5 hours or more.

2.2.3. Learning technologies' applications time frames of the participants of the research

In this section, the situations according to the daily usage time periods in the learning technologies time zones prepared for the participant groups participating in the research are researched and examined. Detailed information is given in Table 3.

Table 3. Learning technologies' application time frames of the participants of the research

Learning technologies' time frame	1 time		2 times		3 times		4 times	
	F	%	F	%	F	%	F	%
Variable	11	4.66	38	16.10	88	37.29	99	41.95

When Table 3 is examined, the frequency of the time periods spent by the participant groups while using learning technologies was investigated and detailed information is added. In this context, 4.66% (11 people) stated that they used learning technologies once, 16.10% (38 people) stated that they used learning technologies twice, 37.29% (88 people) stated that they used learning technologies thrice and 41.95% (99 people) used learning technologies applications four times. In this context, it is seen that the majority of participant preferred to use learning technologies' applications for four times.

2.2.4. Class status

In this section, the class information of the participant groups, who were included in the research and shed light on the sustainable problem situation, were examined and detailed information is given in Table 4.

Table 4. Distribution of participant groups in the study by class status

Department	Second year		Third year		Fourth year	
	F	%	F	%	F	%
Variable	72	30.51	79	33.47	85	36.02

When Table 4 is examined, it is seen that the distribution of the participants included in the study group according to their class status is discussed and the relevant information is added to the table. In this context, 30.51% (72 people) are in the second year, 33.47% (79 people) are in the third year and 33.47% (85 people) are in the fourth year. In this section, the findings reflect the actual distribution.

2.3. Data collection tools

Here, it is seen that there is a data collection tool developed by the people who created the problem statement in the research. The data collection tool, on the other hand, was examined by experts in the field of innovative technology and instructional technologies, and the unsuitable items were removed from the research and corrected. A personal information form called 'innovative technology and teaching models' measurement tool, which was also developed by the researchers, was used. The content validity of the developed measurement tool was examined by four experts with the title of professor and three associate professors, and unnecessary items were removed from the measurement tool and it was rearranged.

1. Personal information form (demographic data): In the personal information form, information such as gender, Internet technology usage times, instructional technology usage frequencies and class are included.

2. Innovative technology and instructional models data collection tool: A 5-point Likert-type questionnaire was prepared to obtain information about the views of the participant groups participating in the research and to develop innovative models and instructional technologies dimensions at the same time. 16 items of the measurement tool consisting of 19 items in total were used and 3 items were removed from the measurement tool, thanks to experts' opinions. The opinions of university students from two factorial dimensions, i.e., 'innovative technology' and 'instructional technologies', were consulted. The Cronbach alpha reliability coefficient of the measurement tool as a whole was calculated as 0.95. The measuring tool was in the range of 'strongly disagree' (1), 'disagree' (2), 'undecided' (3), 'agree' (4) and 'strongly agree' (5). The measurement tool was collected from the people who participated in the research via the Google survey.

2.4. Application

When the application is considered as a dimension, it is seen that the people in the study were prepared meticulously; 236 volunteer teacher candidates who continue their education in various schools were determined, and it was planned with the aim of developing instructional technologies with the help of online education. In addition to the education in the school environment, it was aimed to continue the use of innovative technologies and instructional technology applications and activities, and this situation was explained to the participants. It was prepared with innovative education and training technologies, and this activity was organised by showing the training environment to experts in the field; support was received from the Kahoot application; in some applications, when the activity part of the research was finished, a measurement tool was sent to the participant groups, and they were provided with the means to solve them by Using technology and determining how often they use various teaching techniques and how often their current situation is used with instructional technologies etc. Situations such as

education with technology were given to the participant groups, and they were expected to participate in this subject. After the 3-week training, the measurement tool and information form were applied to the participant groups, and the data are given in tables in the Findings section. The data obtained from the measurement tool applied to the participant groups were transferred to the Statistical Package for the Social Sciences programme by coding them in the computational software environment.

2.5. Analysis of the data

While creating the analysis of the data, the statistical data obtained from the participant groups participating in the research were analysed in the Statistics programme by using frequency (*f*), percentage (%), mean (*M*), standard deviation (SD), *t*-test and analysis of variance. The numerical values of the data obtained from the programme are given in tables, accompanied by comments in the Findings section.

3. Findings

In this section, the data obtained are added to the tables and comments and information are given.

3.1. Devices accessed by the research participant groups while using problem state activities

Table 5 shows the findings regarding the examination of the devices that the participant groups accessed while using the problem situation activities.

Table 5. Devices accessed by research participant groups while using problem state activities

Devices	Computer		Tablet		Smartphone	
	F	%	F	%	F	%
Variable	52	22.03	38	16.10	146	36.02

In Table 5, the information devices they accessed while using the problematic trainings and activities participating in the research are seen. In light of this information, it is seen that 22.03% (52 people) of the participant groups used computers, 16.10% (38 people) of the participant groups used tablets and 36.02% (146 people) of the participant groups used smartphones. According to the above findings, it is seen that they mostly use smartphones (146).

3.2. Opinions of the participant groups participating in the research on learning technologies with innovative methods

In Table 6, the findings consisting of 16 statements and their comments are given in order to get the opinions of innovative methods and learning technologies participating in the research.

Table 6. Opinions of the participant groups participating in the research on learning technologies with innovative methods

No	Ingredients	*M*	SD
1	Having my friends on the platform with its Innovative Technology makes me feel good.	4.47	0.52
2	I use its Innovative Technology for language development and to chat with my college friends.	4.42	0.53

3	I saw that my communication skills improved with this technology.	4.38	0.48
4	I had no difficulty in improving my communication competence.	4.43	0.52
5	I was able to get support when I had problems with the platform and technology I used.	4.41	0.53
6	I think I got rid of being alone and spending free time by using innovative technologies.	4.38	0.52
7	I believe that my communication competence increases in every race I participate in with its innovative technologies.	4.52	0.49
8	I can see every event on the Innovative technologies platform.	4.34	0.57
9	I use innovative technologies in my lessons.	4.41	0.52
10	Learning the scientific meanings of language in communicative competence with technology gives me pleasure and happiness.	4.47	0.51
11	I believe that communicative competencies improve my ability to position and express myself.	4.36	0.54
12	I am happy to participate in communicative competence groups.	4.46	0.52
13	I would like to comment on innovative technologies.	4.38	0.54
14	I'd like to be recognised for the medals I've earned in innovative technology.	4.49	0.57
15	I use it to spend time with my friends with its innovative technology	4.45	0.52
16	I'd be happy to see this technology done in my other courses.	4.46	0.48
	Grand total	4.42	0.52

Table 6 shows the findings regarding the determination of innovative methods and learning technologies views of the participant groups participating in the research. According to the findings of the data collection tool applied after the study, although there was a significant difference in most of the statements, one of the most prominent expressions of the participants was 'I believe that my communication competence increased in every race I participated in with innovative technologies', with an average value of $M = 4.52$. In addition, another prominent statement was 'Learning the scientific meanings of language in communicative competence with technology gives me pleasure and happiness', with an average value of $M = 4.47$, followed by 'I use innovative technologies in my lessons', with an average value of $M = 4.41$. One of the most prominent expressions of the participants participating in the research was 'I would be happy to participate in communicative competence groups', with an average value of $M = 4.46$, followed by 'Having my friends on the platform with Innovative Technology makes me feel good', with an average value of $M = 4.47$. It is seen that each value of the research is high.

Finally, it is seen that the general total average of the given expressions is $M = 4.42$. With these findings, it is seen that the participant groups participating in the research have positive views on

innovative education and training technologies, and they also use innovative technology well in their own period and use every finding, there are many significant findings such as technology and instructional technologies gain meaning, technology develops and the use becomes stronger.

3.3. Learning technologies' status of the participating groups according to the class variable

In Table 7, the Kruskal–Wallis H-test results are given in order to determine the results of the comparison of the learning technologies status of the participants according to the class variable.

Table 7. Learning technologies' status of the participating groups according to the class variable

	Class	N	Rank average	SD	χ^2	p
Learning technologies cases	Second year	72	3.52	0.401		
	Third year	79	4.20	0.372		
	Fourth year	85	4.25	0.757	4.18	0.000
	Total	327	3.99	0.5610		

As can be seen in Table 7, the results of the comparison of the learning technologies status of the participant groups according to the class variable are included, and a significant difference was found between the classes of the participants participating in the research (χ^2 = 4.18; *p* = 0.000; *p* < 0.05). According to the findings, the fourth year participant group studying in the 'classroom' have the highest average of learning technologies (*M* = 4.25). Furthermore, according to the findings of the study, when the other classes are considered, the third year had the second highest second score (*M* = 4.20) and the second year had the lowest perceptions (*M* = 3.52).

4. Discussion

Nurmamatovich and Jalil (2022), on innovative educational technologies and their pedagogical foundations in the work they have done in years, aimed at studying ways to effectively use interactive teaching methods in the learning process; and as a result, they achieved the vocational skills to enable the effective use of new pedagogical technologies in education to be healthy and successful. This value is compared with the results of the research and development of innovative technology perspectives within the field of research. It is seen that, in this context, it can be argued that the research period can be said to be close to each other as new technologies and new generations against the opinions are positive.

Zaporozhchenko et al. (2022) intended to work on a transitional form of the work they have done in the year on higher education through innovative technologies of the future within the framework of the elementary teachers' mathematical competence development; as a result, to improve the pedagogical competence of primary schoolteachers' mathematical specified conditions, the objectives of the study are achieved through innovative technologies and solutions that express the solution of the validated results. In this context, when this value is combined with the results of the research, it is seen that the results of the development and formation of the teaching technology situations of the future teacher candidates are reached. It can also be said that, based on the relevant sources, there will be a difference if the methods used in the research appeal to the appropriate audience.

Haidamaka et al. (2022) intended to provide a theoretical analysis of the study based on the experience in foreign and domestic training bringing new innovations to the issue of training activities; as a result, based on the results of tests carried out they reached the development of innovative technologies in the field of training of future specialists, personality-oriented, activity-based, professional-creative methods integrated with a postmodern approach to the analysis of vocational training. In this context, according to the results of the research, if this value is taken into account, it is seen that the results of the research show that the teachers of the future are successful. While it is seen that research has a positive value, it can be said that innovative technologies provide benefits to both future teachers and educators.

5. Conclusion

When the results part of the research is considered, it is seen that the number of participants is at the top and that the results have been reached. In this context, it is seen that the results of the research in which 236 participants participated have been reached. When another value of the research was reached, the Internet usage times of the participant groups participating in the research were examined and it is seen that the most frequently it is in the range of 5 hours and above and the results that have been reached December. Another positive of the study if the value is another outcome of the research are taken into account when groups of participants surveyed time frames while using learning technologies in their often researched, and as a result of the participating groups at the three options from within up to four times the frequency response of the participating groups, it is seen that results have been achieved. It is seen that these values in the research will benefit the participant groups and that the results of the problem situation have been reached.

Another value of the research is that the information of the devices they accessed while using the trainings and activities in the problem situation participating in the research was investigated, and as a result, it seems that the results were reached where they use smartphones the most. In the survey, it is observed that the problem is directly proportional to the status of each value to another value the opinions of the participating groups participating in the survey by determining the opinions of innovative methods of learning technologies researched. As a result, when they are joined with each race, with the increase in communication skills in innovative technologies, the scientific meanings of language in communicative competence with the technology they were happy to learn them, they could use innovative technologies in their courses, with innovative technology that would make them happy being with your friends on the platform of the participating groups participating in the survey their opinions about education and instructional technologies that are innovative. It is seen that positive values are reached, innovative technology they used during their periods as well, and with each of the findings, the use of instructional technology with the growing use of technology and the technology is getting stronger and very meaningful, containing the values based on the results. When discussing the final results of the study, the surveyed groups of participants according to the variable of the class learning technologies were investigated and the results of the comparison between the classes of the state show that there is a significant difference between the classes of the research participants in four groups. It is observed that the participants who study in the classroom achieve higher results than those in other classes.

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In light of the above results and interpretations, it has been concluded that innovative technology views and skills have increased according to the results of the research. In addition, according to the results of the research, it was concluded that they used learning technologies in the appropriate time frame.

References

Alijon, A., Xoldorovich, S. Z., Abbosovna, G. M., & Kizi, M. M. A. (2022). Technology of ındividualization of learning. *Spanish Journal of Innovation and Integrity, 6*, 291–297. http://sjii.indexedresearch.org/index.php/sjii/article/view/253

Alisherovich, T. F., & Toshboyeva, M. B. (2021). Innovative pedagogical activity: Content and structure. *European Journal of Life Safety and Stability (2660-9630), 11*, 231–237. http://ejlss.indexedresearch.org/index.php/ejlss/article/view/229

AL-Momani, M. O., & Jawarneh, R. S. (2022). The level of occupational stress among physical education teachers in Jordan. *International Journal of Innovative Research in Education, 9*(1), 35–49. https://doi.org/10.18844/ijire.v9i1.7771

Axmedov, M. M., Hojikarimova, G. T., Boyba Bayev, R. H., & Safarova, G. M. (2021). Supporting innovative approaches in the education system. *ACADEMICIA: An İnternational Multidisciplinary Research Journal, 11*(1), 38–41. https://doi.org/10.5958/2249-7137.2021.00001.X

Babanazarovich, N. H., & Rashidovna, S. S. (2021). Methodology of the development geographical concepts ın school pupils. *Web of Scientist: International Scientific Research Journal, 2*(12), 341–348. https://doi.org/10.17605/OSF.IO/CXS6J

Discutido, R., & Especi, J. (2022). Development and evaluation of multiple intelligence-based differentiated instructional material for reading and writing. *International Journal of Learning and Teaching, 14*(4), 173–180. https://doi.org/10.18844/ijlt.v14i4.7541

Gondo, M. T., & Mtemeri, J. (2022). Muted but not silent: Factors influencing sexual abuse disclosure among adolescents in Gutu district, Zimbabwe. *Global Journal of Guidance and Counseling in Schools: Current Perspectives, 12*(1), 68–87. https://doi.org/10.18844/gjgc.v12i1.5136

Gruzdeva, M. L., Vaganova, O. I., Kaznacheeva, S. N., Bystrova, N. V., & Chanchina, A. V. (2020). Modern educational technologies in professional education. In E. Popkova (Ed.), *Growth poles of the global economy: Emergence, changes and future perspectives. Lecture notes in networks and systems* (Vol. 73). Springer. https://doi.org/10.1007/978-3-030-15160-7_110

Gürbüz, U., Afacan Fındıklı, M., & Özdemir, Ş. (2022). Digital HR: A study on how game-based assessments can attract talents. *Global Journal of Information Technology: Emerging Technologies, 12*(1), 22–33. https://doi.org/10.18844/gjit.v12i1.6941

Haidamaka, O., Kolisnyk-Humeniuk, Y., Storizhko, L., Marchenko, T., Poluboiaryna, I., & Bilova, N. (2022). Innovative teaching technologies in postmodern education: Foreign and domestic experience. *Postmodern Openings, 13*(1 Sup1), 159–172. https://doi.org/10.18662/po/13.1Sup1/419

Kononets, N., Ilchenko, O., & Mokliak, V. (2020). Future teachers resource-based learning system: Experience of higher education institutions in Poltava city, Ukraine. *Turkish Online Journal of Distance Education, 21*(3), 199–220. https://doi.org/10.17718/tojde.762054

Kastayev, S., Ortayev, B., Auyezov, B., Gulnara, J., Zhidekul, S., & Shyryn, A. (2022). Formation of the ability to organise learning technologies of future teachers through innovative methods. *World Journal on Educational Technology: Current Issues*. *14*(5), 1305–1316. https://doi.org/10.18844/wjet.v14i5.8092

Mirzayeva, S. D. (2021). Innovative approaches to teaching and upbringing in pre-school ınstitutions. *Middle European Scientific Bulletin, 10*. https://cejsr.academicjournal.io/index.php/journal/article/view/348

Nurmamatovich, D. S., & Jalil, P. (2022). The role of modern technologies in the learning process. *Journal of Ethics and Diversity in International Communication, 1*(8), 6–9. https://openaccessjournals.eu/index.php/jedic/article/view/953

Ozcan, D., & Uzunboylu, H. (2020). School counsellors' perceptions of working with gifted students. *South African Journal of Education, 40*(1), S1–S9. https://doi.org/10.15700/saje.v40ns1a1899

Pogrebinskaya, E. A., Fursova, P. V., & Akhyadov, E. S. M. (2021). Leadership competency formation in management students using mobile learning technologies. *Journal of Educational Psychology-Propositos y Representaciones, 9*. https://doi.org/10.20511/pyr2021.v9nSPE3.1269

Thrassou, A., Uzunboylu, N., Efthymiou, L., Vrontis, D., Weber, Y., Shams, S. M., & Tsoukatos, E. (2022). Editorial ıntroduction: Business under crises: Organizational adaptations. In *Business under crisis, Volume II* (pp. 1–17). Palgrave Macmillan. https://doi.org/10.1007/978-3-030-76575-0_1

Yeni, G., & Can, T. (2022). The effect of 21st century skills training on foreign language teachers' perceptions regarding their educational technology and materials development competencies. *Bartın University Journal of Faculty of Education, 11*(1), 118–136. https://doi.org/10.14686/buefad.777974

Yuldashev, M. (2021). Innovatıve aspects for healthy lıfestyle formatıon and development of sports. *Current Research Journal of Pedagogıcs, 2*(05), 102–107. https://doi.org/10.37547/pedagogics-crjp-02-05-18

Zaporozhchenko, T., Vykhrushch, V., Paguta, T., Bykov, I., Chykurova, O., & Pysarchuk, O. (2022). How to ımprove the mathematical competences of future primary school teachers in Ukraine? Innovative aspect. *Revista Romaneasca Pentru Educatie Multidimensionala, 14*(1Sup1), 83–100. https://doi.org/10.18662/rrem/14.1Sup1/538