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Ways of increasing students' self-organisation for self-study

Sholpan Kolumbayeva[1]
Elmira Aitenova[2]
Assel Tanatova[3]
Akkalam Zhekeyeva[4]
Aliya Kosshygulova[5]✉


(✉ Corresponding Author)

[1,2,3,4,5]*Department of Pedagogy, Institute of Pedagogy and Psychology, Abay Kazakh National Pedagogical University, Almaty, Republic of Kazakhstan.*
[1]*Email: Kolumbsholpan2@gmail.com*
[2]*Email: emma_14@mail.ru*
[3]*Email: assel_tanatova@inbox.ru*
[4]*Email: akkalam.93@mail.ru*
[5]*Email: aliyakosshygulova@gmail.com*

Abstract

The study aims to reveal the psychological and pedagogical indicators of self-management in a student's personality and systematize contemporary synergetic approaches for distance education. The research hypothesis suggests the possibility of optimizing students' motivation for self-management and self-learning for efficient education in a distance mode. The study's methodology is comprehensive and uses a qualitative approach. 463 students from higher institutions in Kazakhstan participated in the study. The research used a survey method in which students assessed their self-study skills. Qualitative analysis of the questionnaires made it possible to divide the respondents into three subgroups according to the results of their ability to self-study. Training and additional classes were planned and conducted in these subgroups, considering the results of the power to self-organize and self-learn, which had a positive effect. Students have different indicators of self-learning abilities, and dividing them into subgroups and differentiating the approach to organizing training has significantly increased self-learning abilities. The synergetic approach allows students to develop their self-management skills and use innovative methods to improve their subject knowledge quality. Using differentiated and synergistic approaches in online learning helps to improve the quality of learning in general.

Keywords: Distance education, Learning methods, Pedagogic synergy, Personality, Self-management, Training techniques.

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Contents

Contribution of this paper to the literature

This study showed the importance of a differentiated approach to organizing distance learning, considering students' self-learning abilities. Students have different levels of self-learning abilities, which should be considered when planning the educational process in a distance format. This will help increase students' learning effectiveness and develop their professional qualities for future activities.

1. Introduction

The education system has not yet achieved immunity to the dynamic transformations occurring in modern society. The transition from the industrial type of education to the digitised forms has made the processes causing the system crisis more noticeable. The pandemic has contributed to the current transformations and enforced the shift from full-time education to distance learning (Gu et al., 2022). Initially, it caused many problems in teaching pedagogy. Still, over time, the practical organisation of education and the ability of students to self-learn and organise show the effectiveness of learning in distance and blended forms (Anghel, 2020; Riva, Wiederhold, & Mantovani, 2021).

The abrupt and forceful transition to distance learning has predetermined the decline in student learning motivation (Hsu, Wang, & Levesque-Bristol, 2019). Additionally, the need for increased access to technical resources (stable Internet, access to learning platforms, etc.), necessary technical expertise, and assistance from teachers and other students has made the issue worse (AlAzzam, Abuhammad, Abdalrahim, & Hamdan-Mansour, 2021).

The synergetic approach, applied to the problem of student self-management, allows us to understand, analyse, and provide guidelines on remodelling existing methods of self-motivation and self-management in education. That kind of approach to the development of student independence methods permits us to re-evaluate the problem of developing pedagogical systems, considering them primarily from such positions as "openness," "co-creation, and self-development orientation" (Gallagher & Schleyer, 2020; Hussain, Zafar Sheikh, & Fatima, 2022). The principles of synergy in organising the educational process are viewed as defining self-management and seeking strategies for motivating self-study and self-discipline. In contrast, the basic postulates (legacy, volatility, and selection) are coherent with the latest trends in the psychological and pedagogic approach to education (Vesikivi, Lakkala, Holvikivi, & Muukkonen, 2020).

Legacy. There is no denying that the world has changed, and the acquired knowledge and skills fail to meet the demands of contemporaneity. Our institutions were created to solve problems that used to be topical many years ago, while authoritarian methods in education generate passive and static personalities (Huang, Wright, & Middleton, 2022).

Volatility. Obtaining a diploma is necessary to update high-quality education, which assumes employment in prestigious and contemporary business. The usual behavioural strategies could be more efficient (Assielou, Haba, Kadjo, Goore, & Yao, 2021).

Selection. Today, only job seekers who are capable of self-management, self-study, and self-development succeed (Vesikivi et al., 2020). The studies focused on the difficulties and individual strategies of students' adapting to the current situation, their flexibility in self-management, self-study, and decision-taking, and their self-motivation methods under extreme conditions of harsh transition to new education systems and knowledge control, which became relevant.

The study's objective is to reveal the peculiarities of student self-management during distance learning and to test the methods enabling the improvement of such self-management.

The study's hypothesis assumes that it is possible to optimise the student motivation for self-management and self-study by providing the required psychological and pedagogical conditions based on a differentiated approach and innovative methods.

In the framework of the research objective, it is planned:

1. Analyse the methods, embracing traditional and synergetic approaches to student activity.
2. Establish the algorithms of actions taken by students for their self-management during distance learning.
3. Verify the respondents' evaluation of the effectiveness of the self-management component and the level of their involvement in the psychologists' and educators' advice.
4. Identify the possibilities to improve the activity of students, administrative staff, and teachers and the prospects of student self-management for effective learning in distance form.

2. Literature Review

The latest research analysed the challenges evoked by the changes in the education system and the positive aspects of refining self-study, self-management, and self-motivation skills (AlAzzam et al., 2021; Oster et al., 2021). The grounds of many works are that in distance and blended learning conditions, the ability to self-study is the basis of compelling study at the university (Pimdee, Ridhikerd, Moto, Siripongdee, & Bengthong, 2023; Tong, Uyen, & Ngan, 2022). There are a lot of negative factors affecting the quality of education in the distance format. Poor learning environment conditions and a lack of direct communication, technical issues and issues with Internet access, an increase in the workload for teachers and education managers, and the need to prepare the methodical, material, and technical facilities in the shortest amount of time are a few of them. (Sjølie, Espenes, & Buø, 2022). Thus, increasing the burden on university control centres (Hegarty & Thompson, 2019; Singh et al., 2020). Organising students' space for high-quality learning in a distance format has a negative impact (Aina & Ogegbo, 2022).

Numerous studies show that active learning strategies promote better retention, critical thinking, and self-discipline than passive learning methods (Ahmed & Mikail, 2022). It is necessary to personalise learning approaches for better learning (Ahmed & Mikail, 2022). Some studies seek practical ways of overcoming failures and their avoidance, as well as the support of the positive aspects of student self-management under online learning conditions (Hoofman & Secord, 2021). Equally important is the study of the impact of online education on

developing and elaborating student self-study skills and ensuring professional competencies (Issakova, Kaltayeva, Bakhtiyarova, Ibrayeva, & Kudaibergenova, 2021). The ability to self-learn and self-organise positively affects the perception of benefits and attitudes toward digital learning (Scheel, Vladova, & Ullrich, 2022).

In some studies, transitioning entirely to the distance form of education during the pandemic is considered a helpful crisis and momentum for improving the educational system and reforms in higher education (Klein et al., 2021). Due to it, universities have gained the stimulus to seek out new pedagogical technologies and innovative ways of thinking. Forming a personality capable of managing self-development is one of the main tasks of contemporary education and efficient labour in the future (Lazorko et al., 2021).

Using various research approaches to distance and blended forms of learning enables us to consider how deeply the new learning system can influence the student's self-management potential (Aitenova et al., 2019). Equally important is the choice of a suitable resource management strategy. Several survey systems were developed to evaluate online self-regulated practical pedagogic learning (Klein et al., 2021; Scheel et al., 2022). The scientific literature offers many theoretical outcomes in self-regulated learning (Klein et al., 2021; Kuzmina, Protas, Fartushok, Raievska, & Ivanova, 2020; Scheel et al., 2022). Thus, three main categories influencing education strategies were distinguished: cognitive, metacognitive, and resource management strategies (Panadero, 2017). An essential component of successful self-management is the control and regulation of internal resources, learning efforts, time management, and the development of stable motivation (Dresel et al., 2015). Considering the sharp shift to distance learning, difficulties and stress factors such as lack of confidence, a drop in social communication level, and depression arise (Sjølie et al., 2022; Son, Hegde, Smith, Wang, & Sasangohar, 2020). Zhornova (2013) carried the algorithms for designing the strategies for academic process management, support, and stimulation of autonomy in research activity, which play a critical role in adaptation and students' distance learning.

The scientific studies are dedicated to students' acceptance of cognitive and metacognitive strategies on which their previous personal experience of autonomy in university education would rely. Adapting such an approach to new situations is also considered (Cuaton, 2020). Albani, Ambrosini, Mancini, Passini, and Biolcati (2023); Han and Geng (2023); and van Rooij, Jansen, and van de Grift (2018) proved the influence of emotional intelligence and character traits on the effectiveness of distance learning. Students and teachers need time to efficiently adapt to distance learning (Rasheed, Kamsin, & Abdullah, 2020). The issues of self-regulation of the educational process and the search for technological solutions and competencies remain major problems (Rasheed et al., 2020).

3. Materials and Methods

The research on the prospects of student self-management and self-motivation was done using the qualitative method. The studies were conducted during the 2021-2022 academic year among students and educators based at higher institutions in Kazakhstan (the Republic of Kazakhstan). The experiment involved 463 students of the first level of higher education (bachelor's degree) and the educators and staff of the dean's office of the Faculty of Economics. Since the training program was designed for management subjects, the primary condition for selecting students was to study in the designated speciality.

The students were being taught remotely, including the academic courses in the professional and general education profiles. The curricula were compiled so the students could learn new notions and components under conditions when it was crucial to activate their self-study skills. That implied the need to spend a lot of personal and academic time.

The experiment was conducted in three stages.

The first stage was the preparatory one. Students' opportunities for self-management and self-learning, as well as those skills or characteristics that hinder this, were examined. For these purposes, questionnaires were distributed among the groups. To investigate the possibility of students learning remotely, the survey used the Scheel et al. (2022) questioner. This survey allows us to assess such components of distance learning as self-organisation (general) and self-organisation for distance learning, digital competencies, the technology acceptance model, the ability to learn independently, and user resistance (to distance learning). The author proved the interdependence of these components, which are necessary for effective learning at a distance, and confirmed the validity and reliability of the developed questionnaire.

The questionnaires represented the current state at the beginning of the pedagogical experiment. Questionnaires were mailed to students, which involved providing feedback to researchers within 12 hours of announcing the need for data.

After the survey, students' skills that need improvement for effective distance learning were highlighted. This was done using a qualitative analysis of each questionnaire, researching the highest and lowest indicators of each component of the ability to learn in a distance format. Behind that, students were divided into subgroups depending on the obtained results.

With the help of conversations and discussions with administrative staff, teachers, and psychologists, methods and forms of working with students were developed. They should contribute to improving indicators of their ability to self-study and self-manage. Students are divided into small groups. Short videos are created to improve some indicators of self-learning and self-management, and recommendations are made for additional reading of certain books to strengthen the necessary work skills for certain students. Each group employs particular teaching strategies and exercises, the application of which ought to raise the level of those self-study abilities that the students in this group rate as being the lowest. Thus, the students were divided into three subgroups (161 students in the first subgroup, 154 students in the second subgroup, and 148 students in the third subgroup) depending on the results obtained, and methods of working with students were selected to improve the skills and abilities necessary for students.

During the second stage of the experiment, students were trained using the author's technology (one academic semester's description of the features of the technology is provided in Appendix A). The subgroups of students were given various psychological and pedagogical activities, which would shed light on assumed expectations as regards the effectiveness of these or those methods (conducting motivational trainings, interactive forms of work, and additional trainings with teachers to increase the level of self-study opportunities). It included selecting learning materials, gaming cases, training measures, amendments to the administrative process, and scheduling

psychological consultations. Besides, the administrative personnel of the university provided technical support for the educational process. The consultations with students were held, and the experimental conditions were explained. They received answers to their questions and were given the required recommendations. After having three classes with different groups of students, the students' suggestions were taken into account, and the methods and forms of work were amended. During the experiment, the students were advised on the technical aspects of distance learning. They talked with their tutors and psychologists, who offered motivational games and delivered training.

Similarly, lectures, practical activities, and, when possible, laboratory work were organised online. The self-study hours were also scheduled for recapping the material delivered to the students during lectures and in the laboratories. A repeat survey of students was conducted at the end of the second stage.

During the third stage of the study, a comprehensive analysis of the experimental results was conducted. This included an overview of the control performance indicators related to the effectiveness of student self-management as well as data on student and instructor attendance at training and consulting events. Additionally, information on the adaptation of students to the distance mode of learning was presented. The final data that became the basis for evaluating the experiment's effectiveness were collected and analysed. The third stage revealed the positive and negative sides of students' self-management and motivation regarding the distance education format.

The final stage presupposed the use of observational methods and statistical data processing. Statistical data processing was done using SPSS Statistics. Differences between groups of students were compared using the student's test.

The students' answers during the survey were collected voluntarily. They consented to participate in the experiment and were guaranteed their personal information's privacy, anonymity, and integrity. The content-based and technical components of the experiment did not include any activities that would affect the integrity and objectiveness of the results of the evaluations given by the experiment participants. In the course of the experiment, there were no techniques or measures taken that would affect the integrity and objectivity of the results and evaluations of the experiment participants. All students provided written consent to participate voluntarily in the research program and were acquainted with its technical and legal aspects. The work was guided by the British Educational Research Association (2018)'s ethical standards and its revisions in later periods, which meet the standards of the institutional and national research committees.

4. Results

The survey results allow for dismissing students' skills that need improvement and enhancing the distance learning system. The data analysis showed a wide range of scores on the criterion "Self-organization (general)" among students. The scores for the other criteria also had some differences, but the largest difference in scores was observed for the criterion of self-organization (general). Therefore, the indicators were ranked, and students were divided into three subgroups. The results of the survey on the ability to study through distance learning with the division of students into groups are presented in Tables 1.

Table 1. Average score of indicators of students' ability to study remotely (n=161).

No	Components	1st subgroup of students (n=161)	2nd subgroup of students (n=154)	t (1 to 2 group), (p)	3rd subgroup of students (n=148)	t (1 to 3 group), (p)	t (2 to 3 group), (p)
1	Self-organisation (General)	4.53±0.65	3.00±0.87	2.89 (<0.05*)	1.53±1.13	9.41 (<0.05*)	6.89 (<0.05*)
2	Self-organisation for distance learning	3.79±0.74	2.68±0.74	2.12 (<0.05*)	2.26±0.68	11.78 (<0.05*)	1.41 (>0.05)
3	Digital competencies	3.11±0.88	2.79±0.65	1.25 (>0.05)	2.53±0.97	1.47 (>0.05)	1.75 (>0.05)
4	Technology acceptance model	2.53±0.74	2.89±0.83	0.74 (>0.05)	2.58±0.85	1.32 (>0.05)	1.44 (>0.05)
5	The ability to study independently	2.68±0.83	3.63±0.62	2.36 (<0.05*)	2.21±0.74	1.58 (>0.05)	2.26 (<0.05*)
6	User resistance	2.74±0.51	2.53±0.81	0.88 (>0.05)	2.56±0.88	1.14 (>0.05)	0.87 (>0.05)

Note: * - statistically significant difference.

The survey results indicate high rates of student self-organization, lower rates of readiness for distance learning, a low ability to learn independently, and a high level of resistance to distance learning among the first subgroup of students.

The indicators of the second subgroup clearly show that low digital competencies cause a lower perception of technology and user resistance and, accordingly, inferior indicators of self-organisation in the distance learning format. At the same time, indicators of general self-organisation are at an average level Table 1.

The third group includes students with a low level of general self-organisation (lower than the students of the first two subgroups), respectively, a low level of self-organisation before studying in a distance format, and the ability to explore independently. Indicators of digital competencies and user resistance demonstrate that, with an increase in previous indicators, students can learn more effectively in a distance format, as shown in Table 1. Comparison of the scores between the subgroups shows, in addition to significant differences in the level of general self-organization (which was the reason for dividing students into three subgroups), significant differences in the components for distance learning, which are presented in detail in Table 1.

The results revealed that group learning is still more acceptable for students, despite the efficiency of distance learning. The results of surveys on the user resistance component show that all groups have low evaluation indicators, which supports this. Considering such results, online classes were held in small groups (up to 15 students), according to the survey results. The ways and areas of student self-management and self-motivation skill

development in the educational process are aimed at adapting and shaping the required characteristics of students' personalities and professional growth and considering insufficiently developed abilities.

Table 2. Ranks of individual components that assess the ability to self-learn in distance education.

No.	Components	1st subgroup of students (n=161)	Components	2nd subgroup of students (n=154)	Components	3rd subgroup of students (n=148)
1.	Technology acceptance model	2.53	User resistance	2.53	Self-organization (General)	1.53
2.	The ability to study independently	2.68	Self-organization for distance learning	2.68	The ability to study independently	2.21
3.	User resistance	2.74	Digital competencies	2.79	Self-organization for distance learning	2.26
4.	Digital competencies	3.11	Technology acceptance model	2.89	Digital competencies	2.53
5.	Self-organization for distance learning	3.79	Self-organization (General)	3	User resistance	2.53
6.	Self-organization (General)	4.53	The ability to study independently	3.63	Technology acceptance model	2.58

The authors took into account such indicators as the rank of each criterion in a particular subgroup of students and the assessment of this criterion when developing a technology for improving distance learning. The ranks of individual components that assess the ability to self-learn are presented in Table 2.

For example, the first group has the lowest score in the technology acceptance model component, which is given the most attention in the authoring process, and the learning process is designed to meet the needs of students and improve their skills, as in other groups.

After using the author's technology during the academic semester, the students were re-surveyed to examine their ability to self-study. The result is presented in Table 3.

Table 3. Indicators of components that assess the ability to self-learn in distance education after the experiment.

Components	1st subgroup of students (n=161)		t (1 group before/ After) (p)	2nd subgroup of students (n=154)		t (2 group before/ After) (p)	3rd subgroup of students (n=148)		t (3 group before/ After) (p)
Survey time	Before	After		Before	After		Before	After	
Self-organisation (General)	4.53± 0.65	4.63± 0.33	0.22 (>0.05)	3.00± 0.87	4.05± 0.24	2.14 (<0.05*)	1.53± 1.13	3.00± 0.24	3.54 (<0.05*)
Self-organisation for distance learning	3.79± 0.74	4.05± 0.45	0.85 (>0.05)	2.68± 0.74	4.16± 0.38	4.32 (<0.05*)	2.26± 0.68	2.47± 0.36	0.58 (>0.05)
Digital competences	3.11± 0.88	4.00± 0.31	2.14 (<0.05*)	2.79± 0.65	3.84± 0.52	4.98 (<0.05*)	2.53± 0.97	3.16± 0.54	1.36 (>0.05)
Technology acceptance model	2.53± 0.74	3.68± 0.42	2.89 (<0.05*)	2.89± 0.83	4.05± 0.32	6.11 (<0.05*)	2.58± 0.85	3.11± 0.41	1.54 (>0.05)
The ability to study independently	2.68± 0.83	3.37± 0.54	1.78 (>0.05)	3.63± 0.62	3.84± 0.37	0.35 (>0.05)	2.21± 0.74	3.11± 0.52	1.72 (>0.05)
User resistance	2.74± 0.51	3.89± 0.50	4.78 (<0.05*)	2.53± 0.81	3.68± 0.25	6.45 (<0.05*)	2.53± 0.88	3.37± 0.61	4.54 (<0.05*)

Note: * - statistically significant difference.

As has been assumed, the analysis showed minor increases in the components that examine the student's ability to study in the distance learning format. Nevertheless, further work and planning of the curriculum according to the student's skills and needs are required for a better effect. Comparing the opportunities for self-learning of students in the first subgroup before and after the experiment, it can be observed that the general level of self-organisation and self-organisation during distance learning had no significant changes according to the Student's criterion ($p<0.05$), while the digital competence, technology perception model, the ability to study independently, and user resistance had statistically notable changes ($p>0.05$). In the second subgroup of students, positive changes were observed in almost all components except for the ability to learn independently, and in the third group, the ability to self-organize (general) and user resilience improved significantly Table 2.

There is no substantial improvement in the evaluation indicators of such components of self-learning ability as self-organisation for distance learning and the technology acceptance model ($p<0.05$).

Comparing the results of students' ability to self-study between the three subgroups after the experiment, it can be stated that students from the third subgroup still have worse self-study ability in almost all components (except for the ability to study independently compared to the first group and user resistance in comparison with the two groups) than students from the first and second subgroups Table 4.

The indicators of the first and second subgroups do not differ statistically ($p<0.05$). Indicators of self-organization (general) and self-organization for distance learning between the first and third and second and third subgroups have significant differences ($p<0.05$*), which indicates the need for further work on these components with students from the third subgroup, as well as identifying other reasons for such results.

5. Discussions

The process of training specialists in higher education is considered an integrative and synergetic education system centred on student personality, which, in turn, is a complex self-organising system. A system consisting of several complex components resulting in a comprehensive and synergetic system will be implemented

unpredictably, fragmentarily, and randomly. In the research by Biwer et al. (2021), most students referred to the profile of maintaining adaptation – 53% of respondents. Nonetheless, this group is observed to have reduced motivation and attention compared to academic students studying offline. The students referred to the overwhelmed (22%), and the surrendered (25%), who experienced difficulties adapting to the online learning conditions and the necessity to activate their online learning (Biwer et al., 2021).

Table 4. Comparison of assessment of self-learning ability between students of different subgroups after experiment.

Components	1st subgroup of students (n=161)	2nd subgroup of students (n=154)	t (1 to 2 group), (p)	3rd subgroup of students (n=148)	t (1 to 3 group), (p)	t (2 to 3 group), (p)
Self-organisation (General)	4.63	4.05	0.36 (>0.05)	3.00	2.68 (<0.05*)	2.85 (<0.05*)
Self-organisation for distance learning	4.05	4.16	0.74 (>0.05)	2.47	3.32 (<0.05*)	4.11 (<0.05*)
Digital competences	4.00	3.84	0.88 (>0.05)	3.16	1.74 (>0.05)	0.74 (>0.05)
Technology acceptance model	3.68	4.05	0.96 (>0.05)	3.11	1.85 (>0.05)	1.78 (>0.05)
The ability to study independently	3.37	3.84	1.21 (>0.05)	3.11	1.22 (>0.05)	1.38 (>0.05)
User resistance	3.89	3.68	1.01 (>0.05)	3.37	0.78 (>0.05)	1.52 (>0.05)

Note: * - statistically significant difference.

The survey of students before the experiment ought to display the better-developed skills of students for independent distance learning. At the same time, various students have developed different self-study skills. The author's technology for improving the ability to self-study in a distance format has been developed considering the obtained results. Researchers also wrote about considering students' abilities (Ahmed & Mikail, 2022; Scheel et al., 2022). The improvement of self-study skills and the training were carried out in small groups, as Sesadze, Sesadze, and Kevkhishvili (2021) recommended. After the experiment, respondents reported positive changes in their aspiration to self-study and self-management under the online learning conditions after taking relevant psychological and pedagogical measures. The most positive interrelationship between the indicators of self-learning ability is the desire to learn (Pimdee et al., 2023).

A marker of our study was dividing students into subgroups according to their ability to self-study and a differentiated selection of methods of working with them. After all, Albani et al. (2023), Han and Geng (2023), and van Rooij et al. (2018) have proven the influence of character and emotional intelligence on the ability to self-regulate during learning in a distance or blended format. Before this, we suggested determining the ability to self-study and dividing students into different groups for additional work that promotes practical academic work in distance and blended learning. The necessity to consider individual peculiarities and the level of abilities of each student affecting self-management and self-motivation resulted in various approaches to adaptation under the conditions of distance learning (Dörrenbächer & Perels, 2016). Thus, the researchers highlight the necessity to consider the multidimensionality of the problem: some students have more problems with planning and distributing their efforts, while others report difficulties with being motivated and concentrating attention (Biwer et al., 2021; Jaclyn Broadbent, 2017).

Considering the results of specialist research and those obtained in this study, it can be stated that practically everything is essential to the quality education of students in the distance learning format. Here we refer to the arrangement of the place of study (Klein et al., 2021), the selection of methods and means of teaching pedagogy (Riva et al., 2021; Vesikivi et al., 2020), the interface of the training course (Sjølie et al., 2022), interaction and communication in online mode (Albani et al., 2023; Han & Geng, 2023; Pimdee et al., 2023), and consideration of the individual capabilities of students (Scheel et al., 2022; Tong et al., 2022).

These results affirm the necessity of further student-centred studies in the synergetic area of self-regulated learning and motivation profiles (Broadbent & Fuller-Tyszkiewicz, 2018). Some works by Broadbent and Fuller-Tyszkiewicz (2018), dedicated to online learning problems, are mainly focused on non-adapting students. Consequently, the differences between the students who chose self-study and can work effectively in online mode have developed their views on the ways of activating their self-study and self-motivation potential, and the students who need a specific approach and, probably, other psychological and pedagogical support from administrative and teaching personnel are declared as well. The results show that contemporary researchers and practicing specialists in education face even more challenges adapting synergetic approaches to student self-motivation and self-management methods for effective learning. That complements the results of Sjølie et al. (2022) regarding the need for social interaction among students in distance learning settings.

The prospects include the necessity to continue the implementation of innovative methods of education aimed at specific groups of students, depending on their abilities for self-management and self-motivation. The consultation practices, advanced training of pedagogical personnel, and improvement of methodological skills should be further developed.

6. Conclusions

The experiment results demonstrate that the implementation of synergetic approaches to self-management and self-motivation by students during online learning is a prerequisite for ensuring high-quality academic education. The hypothesis formulated at the beginning of the research was confirmed during the pedagogical experiment, which showed positive results from the use of psychological and pedagogical conditions and the application of innovative methods. That has led to optimising students' self-management and self-study methods, also considering their ability to self-learn.

The study's results allowed us to reveal the components of the educational process, such as active and interactive teaching methods, training practices, and psychological support, and generalise them as authors'

programs with a differentiated and, to some extent, individual approach. Taking into account the rating of a particular component and its evaluation, the training material, selection of tools and methods, duration of the training, and creation of additional tasks aimed at improving the overall ability to self-learn, mastering technologies, and other components were planned. Learning in a distance education format cannot be passive. It should be valuable, primarily for a student, influential in personal success, and hence be a motivational driver at the personality level. The research results show the efficiency of the individual approach and the applied methods to improve the ability to self-study. At the same time, it is necessary to continue working with students with the lowest initial data on their ability to self-study. Further work is needed to improve students' self-study skills.

The aspiration to achieve the set of goals and the desire to conform to personal reference indicators lead to a regular comparison of education results, the quality of knowledge, and its required scope. The accurate assessment of education productivity, the spotting of mistakes, and their elimination help increase education quality under quarantine restrictions.

The process of student self-management and self-motivation in distance learning shall be a comprehensive education system centred on the student's personality as a complex self-organising system. Specific components of this complicated and multidimensional system shall remain spontaneous, chaotic, and, at some points, unpredictable. That will facilitate training a specialist with a wide range of professional qualities and abilities to self-study continuously. The acquired skills of self-study and self-motivation will enable students to determine their own way and pace of education. The prospects of further studies include the development of strategies for improving the level of student motivation for self-management, depending on individual qualities and experiences.

The study of the developed technology took place during one academic semester with students from one country (Kazakhstan). The study did not take into account students' performance indicators (neither during traditional teaching nor during the pedagogical experiment).

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Appendix A

A description of the features of the author's technology in improving the ability of students to study independently in a distance mode.

The components of the notion of self-management and self-motivation in distance learning presuppose a gradual process, which is a prerequisite for successful education in a new situation. Therefore, teachers used the following sequence of actions to improve students' self-organisation and self-learning skills:

1. Adequate assessment of the student's abilities.
2. Acquisition of the necessary skills for studying in the distance learning format.
3. Development of strategies for different students.
4. Selection of methods and materials for teaching, and an individual and different approach to students.
5. Development of the skills required for effective self-learning.
6. The constant support of students during the educational process.
7. In consideration of students' characteristics and self-learning abilities, strategies and materials have been developed to improve the least developed abilities.

Considering the survey results, students' ability to self-study was ranked according to the average score and assumed when drawing up a lesson plan. For example, in the first subgroup, the attention to the topics of classes and the allocation of time for the development of specific skills were as follows:

1. Classes for technology acceptance.
2. Development of the ability to study independently.
3. Classes should adopt the use of technologies for distance learning.
4. Development of digital skills and competencies.
5. Work on self-organisation for distance learning.
6. Work on general self-organisation.

In the second subgroup:

1. Classes should adopt the use of technologies for distance learning.
2. Work on self-organisation for distance learning.
3. Development of digital skills and competencies.
4. Classes for technology acceptance.
5. Work on general self-organisation.
6. Development of the ability to study independently.

In the third group:

1. Work on general self-organisation.
2. Development of the ability to study independently.
3. Development of digital skills and competencies.
4. Classes should adopt the use of technologies for distance learning.

5. Classes for technology acceptance.
6. Work on self-organisation for distance learning.

The instructions for the training to develop the necessary skills for learning in a distance format, taking into account student assessment, have been written. The schedule of group and individual psychological consultations and talks has been suggested to help recognise the necessity of changes. The consultations and practices on digital literacy, the possibility to communicate with technical specialists on an ongoing basis, the training on working in the video-conference mode and on learning and e-platforms, and awareness of the significant directions of alternative education have facilitated the transition to innovative methods under pandemic conditions. Special consultations on personality development and narrative training were developed, and the teamwork for research, creative project implementation, and individual program design was organised. Furthermore, the principal pedagogical procedure was implemented within these subgroups, whereby teachers took into account the aptitudes of students in each subgroup and opted for assignments that were comprehensible and achievable for students. Additionally, they selected tasks that progressively enhanced students' capacity for self-directed learning and refined the constituents of this ability.