Asian Journal of Social Sciences and Management Studies
Vol. 11, No. 4, 133-139, 2024
ISSN(E) 2313-7401/ ISSN(P) 2518-0096
DOI: 10.20448/ajssms.v11i4.6240

Digitalization of the professional training of foreign students in a Russian educational institution

Alina Aleksandrovna Pozdnyakova[1]
Tatiana Evgenievna Kolyadina[2]
Larisa Yurevna Morozova[3]
Marina Evgenevna Kalita[4]
Fatih Düzgün[5]✉


(✉ Corresponding Author)

[1,2]*The Kosygin State University of Russia, 33/1, Sadovnicheskaya Str., Moscow, 117997, Russian Federation.*
[1]*Email: apozdnyakova@live.ru*
[2]*Email: kolyadina-te@rguk.ru*
[3,4]*Moscow Pedagogical State University, 1/1 M. Pirogovskaya Str., Moscow, 119991, Russian Federation.*
[3]*Email: lyu.morozova@mpgu.edu*
[4]*Email: marina-kalita@mail.ru*
[5]*Akdeniz University, Antalya, Turkey.*
[5]*Email: fatihduzgun@akdeniz.edu.tr*

Abstract

The professional training of foreign students is currently strongly influenced by the "mobility factor", which is why digital technologies are pivotal for shaping a future specialist. The methodological possibilities of the digital environment allow not only to provide foreign students with the necessary knowledge and skills for interaction in a multicultural space, but also systematically build various aspects of professional competence, bringing it to the level of prolonged self-development. In this study, we analyzed the current concepts of digitalization of professional training of students to select practices that are suitable for integration into the Russian higher education system. The aim of this work is to challenge the negative view of digitalization of higher professional education and define conditions for the reform of the content of the professional training of foreign students. The following research methods were used: 1) review of the relevant literature; 2) analysis of modern pedagogical practices of teaching foreign students in remote conditions; 3) analysis of statistical data evaluating the state of digitalization of professional training in a university. As a result, we identified three groups of concepts for the digitalization of professional training: 1) self-regulated learning; 2) supportive learning; 3) generating learning. Despite the existing practical and methodological limitations, the latter appears to be the most promising.

Keywords: Digital technologies, Education digitalization, Foreign students, Information and communication technologies (ICT), Professional training, Self-regulated learning.

Citation | Pozdnyakova, A. A., Kolyadina, T. E., Morozova, L. Y., Kalita, M. E., & Düzgün, F. (2024). Digitalization of the professional training of foreign students in a Russian educational institution. *Asian Journal of Social Sciences and Management Studies*, *11*(4), 133–139. 10.20448/ajssms.v11i4.6240
History:
Received: 5 November 2024
Revised: 9 December 2024
Accepted: 17 December 2024
Published: 23 December 2024

Publisher: Asian Online Journal Publishing Group

Funding: This study received no specific financial support.
Institutional Review Board Statement: Not applicable.
Transparency: The authors confirm that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.
Competing Interests: The authors declare that they have no competing interests.
Authors' Contributions: All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.

Contents

Contribution of this paper to the literature

To our knowledge, this is the first in-depth analysis of the current state of digitalizing professional training for foreign students in Russian educational institutions. We suggest a classification of the key practices for integrating digital technologies into higher education, aiming to enhance the quality of professional training for foreign students.

1. Introduction

Professional training of a student involves creating "a system of organizational and educational measures that ensure the formation of professional knowledge, skills, and abilities on the one hand, and readiness for future professional activity on the other" (9: 230). In recent years, due to the changing socio-political situation, professional training for foreign citizens has been carried out using digital technologies, and at times with full immersion in the digital environment. It can be said that this is a natural process that corresponds to the trends of the times and - more narrowly - the interests and needs of the students (Gao, 2021; Infante-Moro, Infante-Moro, Gallardo-Pérez, & Martínez-López, 2022; Marcelo & Rijo, 2019; Pham, 2022). The methodological possibilities of the digital environment allow not only to provide foreign students with the necessary knowledge and skills for interaction in a multicultural space, but also step-by-step, systematically form various aspects of professional competence, bringing it to the level of prolonged self-development.

In our research, we assume that there is much room for improvement in the quality of the digital environment for higher education, as well as for graduate studies. The training of foreign specialists who are studying educational programs remotely requires the inclusion of such components as computer graphics (Tai, Hu, Wang, Zhang, & Chen, 2013; Wang, 2011) virtual and augmented reality (Alnagrat, Ismail, & Idrus, 2022; Morimoto et al., 2022; Vergara, Rubio, & Lorenzo, 2018) virtual modeling and gaming technologies (Antoniou, Vassilakis, Theodoropoulos, & Lepouras, 2018; Bampatzia et al., 2016; Fishwick, Henderson, Fresh, Futterknecht, & Hamilton, 2008; Potkonjak et al., 2016) in the digital methodological toolkit. These tools should be integrated into a professional training program, while the educational program itself should be initially oriented towards the possibility of such integration, functioning as a digital platform with enhanced functionality. Cekha (2021) writes that the combination of "educational program - digital platform" can "integrate digital technologies that provide more effective substantive filling of the educational process, regardless of the type of educational program" (13: 86). Effectiveness in this case corresponds to the criteria of efficiency, productivity, and economy of the educational process. Efficiency implies a high degree of achievement of the set goals (planned learning outcomes). Productivity allows evaluating the "result in time," manifested, for example, in the reduction of timeframes (passing topics) and individualization of learning, self-study of individual program sections and course topics using digital platform resources. Economy is manifested in cost reduction: a well-balanced digital resource is more cost-effective compared to traditional forms of education (Pathak, 2016; Zotov, Pozdnyakova, Morozova, Grafkova, & Kalita, 2022).

It should also be noted that such a program, based on the common requirements of the Russian educational system, can be more oriented towards the characteristics of the target audience - foreign students, taking into account their level of proficiency in the Russian language, the peculiarities of the national academic tradition, and the national specifics of the profession studied Nathadwarawala and Unhelkar (2020). However, for this to happen, the digital and technological potential of Russian higher education must not only be sufficient but also mobile, ensuring the integration of domestic higher education programs into the educational systems of partner countries. Currently, options for such integration are only offered in the implementation of "narrow" interuniversity programs, which is clearly insufficient to ensure competitiveness in the modern market of educational services (Pozdnyakova, Nikitaeva, Zotov, Kuznetsova, & Morozova, 2022; Zotov et al., 2022).

As part of this study, we conducted the analysis of current trends in digitalization of the professional training of foreign students in universities worldwide to select practices that are most suitable for integration into the Russian higher education system. The aims of our study are: 1) to challenge the already established negative view of digitalization in higher education as a "forced necessity", and 2) to identify conditions for qualitative reform of the content of professional training of foreign students.

2. Methods

The proposed study is analytical in nature, and therefore we have used the following main methods:

1) the study of relevant academic literature related to the general methodological issues of digitalization of higher professional education (Aviram, Ronen, Somekh, Winer, & Sarid, 2008; Goyal, 2012; Horvitz, Dabbagh, & Bannan-Ritland, 2007; Neborsky, 2021; Peres & Pimenta, 2011; Yot-Domínguez & Marcelo, 2017), technological aspects of digitalization of higher professional education (Evers & Chen, 2021; Garcia & Backer, 2005; Huerta, Atahua, Guerrero, & Andrade-Arenas, 2023; Parvez & Otri, 2017; Suleimanov & Porshnev, 2008; Ziegler & Moeller, 2012), problems of student readiness for digital and hybrid learning in various professional fields (Adams, Chuah, Sumintono, & Mohamed, 2022; Adams, Tan, & Sumintono, 2020; Gao, 2021; Kalogiannakis et al., 2023; Salim et al., 2018; Smith et al., 2019) and the readiness of the teaching staff to implement digital teaching (Antón, Fernández Arias, & Vergara Rodríguez, 2023; Kalogiannakis et al., 2023; Salim et al., 2018; Zhao, Llorente, & Gómez, 2021); the role of the ethno-cultural component in the professional training of foreign students (Laskareva, Pozdnyakova, Bazvanova, Dmitrieva, & Chepkova, 2021; Nathadwarawala & Unhelkar, 2020; Pham, 2022; Pozdnyakova, Markova, Kolyadina, Zotov, & Kalita, 2022; Smith et al., 2019; Song & Oh, 2011);

2) analysis of modern pedagogical practices of the professional training of foreign students in remote conditions (Pathak, 2016; A. Pozdnyakova et al., 2022; Salim et al., 2018; Xidirbaev & Abdurahmanov, 2021; Yot-Domínguez & Marcelo, 2017; Zotov et al., 2022);

3) analysis of statistical data assessing the state of digitalization of the professional training of foreign students in universities (Anisimov, Afanasyev, & Gohberg, 2022; Arefyev, 2020; OECD, 2021).

In our case, the material for the study was a set of relevant information on the problem under consideration, especially those aspects that require further study. Thus, the experience of digitalization of professional training of foreigners in leading Moscow universities (The Kosygin State University of Russia (MSUDT), Moscow Pedagogical

State University (MPGU), MIREA - Russian Technological University) was thoroughly studied, and its positive aspects were identified.

Primary data was not used in the work, since the goal of the study was to select practices that are most suitable for integration into the Russian education system, based on the analysis of the current concepts of digitalization of professional training of foreign students in universities worldwide. As the results of the study, we aimed to provide a scientific justification for the concepts of digitalization of professional education from the perspective of their feasibility for use in the training of foreign students in universities. Experimental justification of the prospects and feasibility of certain practices is seen by us as the next stage of problem development.

3. Results

Analysis of current scientific literature and modern pedagogical practices allows us to identify three groups of concepts for digitalization of the professional training, which can be applied to teaching foreign students in a university.

The first concept is based on the theory of self-regulated learning, where a student "controls and regulates activities aimed at achieving goals of obtaining information, expanding knowledge, and self-improvement" (34: 98). This concept was detailed within the iClass - self-regulated personalized learning project (SRPL) (8: 1-3), aimed at creating a digital learning management system by incorporating personalization and self-regulation mechanisms to enhance students' internal motivation. Analyzing this theory, Fok and Ip (2004) note: "From the pedagogical point of view, the major requirement for distance learning via Personalized Courses is the flexibility of the system to adapt easily, dynamically and with minimum overhead to the individual student's progress, needs and interests. The subject, the content, the details, and the tempo should be dynamically personalized on the flow" (18: 407). Ziegler and Moeller (2012) point out that the inability to incorporate personalization is one of the central reasons for the failure of e-learning models and projects (Ziegler & Moeller, 2012).

Under this approach, a student is essentially given only the direction of learning, and the student organizes and structures the entire educational process themselves (Moeller, Theiler, & Wu, 2012). Researchers such as Marcelo and Rijo (2019) and Yot-Domínguez and Marcelo (2017) adhere to this concept. In their work, they systematize digital technologies for self-regulated learning according to the strategies of their implementation (see Table 1).

Table 1. Strategies and technologies of self-regulated learning (SRL).

No.	Technology	Strategies
1.	Communication tools: WhatsApp, Line, Skype, Google talk	Exchange information
		Solve doubts
		Discussion
2.	Repositories: Slideshare, Instagram, Pinterest, Issuu, Calameo, Youtube, iTunes, iVoox	Review of specific material obtained for studies
		Be informed
		Share one's own productions and material
3.	Social networks: Twitter, Facebook	Comment information
		Information exchange
		Be informed
4.	Production and storage tools in the cloud: Wikis & blogs, Dropbox, Google +	Team work
		Comment information
		Be informed
5.	Social markers & RSS: Delicious, Sage	Record information
		Receive information
6.	Multimedia resources: Podcast, video	Listen to the previously recorded lesson
		Self-listening
		Self-observation
7.	Assessment tools: ExamTime, Google application forms	Verify learning
8.	Internet: Wikipedia or online dictionaries; translators; Google academic, Dialnet	Translate information
		Locate information
9.	Management tools: Cmap, MindManager; RefWorks, Mendeley; Viper	Create concept maps,
		Draft texts managing bibliography
		Draft texts and verify plagiarism
10.	Other technology: Specific apps (Kalkulilo, whiteboard lite) & organisers (Google calendar, EverNote)	Resolve academic activities making them more attractive
		Manage academic activities

Note: Excerpted from Yot-Domínguez and Marcelo (2017); SLR: Self-regulated learning, RSS: Really simple syndication feeds.

The concept of self-regulated learning requires significant "intellectual investments" from the learner, which should grow and enrich in the information environment. However, scientists warn that "it is obvious that not all choice supporting options and functions should be open to the learner at once and in all circumstances" (8: 7). This thesis is extremely important for the professional training of foreign students, as the level of proficiency in the Russian language (more precisely, the stage-by-stage formation of communicative competence) is the driving factor in learning. It takes time for foreigners to combine knowledge of the Russian language and the language of their specialty, and these should be combined with the stages of social and cultural adaptation of a person in a new society, his "maturation" as a future specialist. In other words, the use of the concept of self-regulated learning at the early stages of a foreigner's professional development in a university (and in general, in case of low proficiency in Russian) is unproductive.

The second concept is that of supplementary, supporting learning. The essence of this concept lies in the parallel functioning of standard ("non-digital") and digital educational programs (Cohen & Ellis, 2002; Peres & Pimenta, 2011). Digital resources in this case are implemented as online courses, which usually have the status of elective

disciplines. The development of such courses is mostly carried out by departments or interdepartmental university associations, since it is the departments that are interested in having their own resources adapted to the needs of specific educational programs. Researchers note that resources formed at the departmental level are the most voluminous in content and in demand. They can make up to 75% of the volume of the entire university portal information (20: 60-61). Digital platforms (Moodle®, WordPress®, Blackboard®, etc.) play the central role in this type of learning system. Other resources can serve as additional tools for optimizing the learning process (see Table 2).

Table 2. Supportive digital resources.

No.	Digital tool categories	Forms of digital tools
1.	Content creation tools	Power Point®, Prezi®
2.	Communication tools	Skype®, Facebook®, WhatsApp®, Telegram®, Twitter®
3.	Tools for collaborative content creation	YouTube®, Instagram®, iVoox
4.	Standard management tools	Mendele®, Zotero®

Note: Excerpted from Peres and Pimenta (2011).

One can consider the following drawbacks of online supporting courses in general and specifically: 1) lack of systematic transfer of professional knowledge (courses pursue different goals); 2) lack of connection between specialized (professionally oriented) material and language material; 3) mono-aspect nature (each course has its own direction); 4) insufficient methodological support for resources (it is not provided for autonomous resources). Accordingly, the task of modern researchers working in this direction can be considered as the creation of online supporting courses integrated into the educational environment of the university.

The third concept is the concept of generating learning. Within this concept, two approaches can be distinguished - "broad" and "narrow". The "broad approach" is reflected in the work of Cekha (2021) who writes that the most logical way to transform an educational program in the context of digitalization is "to connect it with a digital platform" (13: 85). This same idea can be observed in the works of foreign researchers (Infante-Moro et al., 2022; Pathak, 2016).

The "narrow approach" involves education going beyond traditional forms, but with a clear distribution of functions. For example, control and administrative functions remain entirely with the digital platform, which, according to many researchers, ensures objectivity in assessing the results of professional training (Batra & Kumar, 2022; Infante-Moro et al., 2022). The functions of presenting course content are carried out autonomously, through multimedia systems or digital materials for students (Garganté, Naranjo, & Tamarit, 2014). Supporting functions at all stages remain with the human, including methodological, psychological, and technological support for learning (Laskareva et al., 2021).

Within this approach, digital tools are classified according to their applicability to various educational activities, while educational activities are part of a whole. Antón et al. (2023) analyze the classifications proposed in Garganté et al. (2014) and agree with the chosen approach (Antón et al., 2023; Garganté et al., 2014). The researchers propose considering digital resources depending on their orientation – towards a teacher or towards a student. The first group includes all those aimed at creating and presenting educational materials, while the second group includes those oriented towards maintaining communication with students and other teachers, as well as organizing control over the educational process. Despite the relative conditionality of such a classification, it has the right to exist (see Table 3).

Table 3. Didactic classification of digital environment tools.

Academic activity	The use of digital resources	Examples
Content technologies	Support oral presentations of contents	Word processor
	Present contents through multimedia systems	Video creating
	Conduct tutorials with students	Online platforms
	Show useful tools to students	Microsoft office®
Interaction technologies	Dynamize virtual classes	Moodle®, delicious®
	Communicate with students	Skype®, e-mail
	Monitor the progress of the learning process	E-portfolio, self-assessment
	Provide guidelines to facilitate learning	Intelligent tutoring system

Note: Excerpted from Garganté et al. (2014) and Antón et al. (2023).

In addition, Antón et al. (2023) propose their own classification of digital tools (information communication tools, ICT) (Antón et al., 2023). The classification is based on the scientific justifications mentioned above but is more oriented towards subject-subject relationships that distance learning presupposes (see Table 4).

Table 4. Classification of ICT means for educational purposes.

Family of ICT tools	Examples
Presentations for class	Power Point®, Prezi®
ICT tools for class use	PDF-3D®, virtual lab
Meetings with the staff	Google Meet®, Skype®
Tutorials	Blackboard®, Zoom®
Content sharing	YouTube®, iVoox®
Evaluation tools	Socrative®, Quizziz®, Google forms®, Kahoot

Note: Excerpted from Antón et al. (2023).

Conducting research in Latin America and the Caribbean, Antón et al. (2023) note the fact that during the pandemic, digital tools were essential for tasks such as searching, collecting, and transmitting data, and then crossed this boundary and "suddenly became cognitive learning tools, promoting cognitive reflection and fostering students'

mental representations" (5: 131). This extremely important conclusion, in our opinion, testifies to a change in the scientific community's view of the functions of digital resources - from auxiliary to generating, determining the movement of personality along the trajectory of professional development. According to the researchers, this fact "leads to a global methodological shift" (Ibid.: 131) - "the adoption of a constructivist approach to learning, focused on the learner and capable of being carried out at any time and in any place" (Antón et al., 2023; Dubey & Kanvaria, 2020).

Currently, the process of the professional training of foreign students in Russian universities is governed by the general principles that apply to educational programs. National specifics of the learners are not taken into account, and programs that are oriented towards foreign students are not provided for in most cases, which is quite logical for stream learning. Only a few universities create independent programs for foreign students, and not all of them are suitable for implementation in a distance learning mode due to the lack of appropriate infrastructure in the university or insufficient technological capabilities of foreign students from certain regions (Zhang, Khan, Dagar, Saeed, & Zafar, 2022). As a result, the effectiveness of such programs is doubtful. However, the digitization of professional education is inevitable and, in our opinion, has extremely high potential.

4. Discussion

The analysis carried out allowed us to select concepts of digitalization of vocational training that could be applicable to foreign students' education in a university. These are: 1) the concept of self-regulated learning; 2) the concept of accompanying learning; 3) the concept of generating learning. The latter seems to us to be the most promising, despite the limitations associated with its implementation. Our choice is largely due to an understanding of the possibilities provided by the digital environment as a tool for not only disseminating but also generating knowledge. Let us cite the opinion of Professor S.R. Filonovich, who explains the process of forming academic knowledge as follows: "...when a student or teacher reads a textbook, they receive information. They still have to turn this information into knowledge in their mind. Knowledge is always associated with action" (Shiversky, 2007). It is this "action" that is provided by the resources of the digital environment, which, firstly, are incorporated into the structure of the vocational training program, secondly, are available to a student, and thirdly, are skillfully used by a teacher.

The methodological possibilities of the digital environment relevant for the vocational training of foreign students include: 1) access to various sources of information; 2) availability of interactive content; 3) availability of visualization tools; 4) providing the possibility of collaborative activities and fast feedback; 5) facilitating self-study; 6) objective control and evaluation.

Within the framework of the generating learning concept, the digital environment can be a good tool for developing professional communication skills and ensuring effective interaction between teachers and students. This is emphasized, in particular, by Dubey and Kanvaria (2020) who highlight the importance of integrating digital technologies into the content of traditional professional education (Dubey & Kanvaria, 2020). However, such integration is only possible with sufficient competencies of educators who are able to organize and enrich digital educational content, as stated in the works of Gao (2021); Infante-Moro et al. (2022); Antón et al. (2023). This same idea is traced in the research of Kalogiannakis et al. (2023) who analyzed electronic tools in terms of the necessary expansion of teachers' digital competencies (25).

Professional training should shape a person's personality and provide "orientation in the world of professions and competence in a specific job" (9: 230). In order for this task to become feasible, the digital resources of the university must be significantly changed towards greater adaptability and expanded functionality (Huerta et al., 2023; Neborsky, 2021). This corresponds to the idea of generating learning.

There is also another aspect of the problem of digitalization that we want to draw attention to in the context of this research.

Researchers emphasize that the concept of "digital environment" is not unambiguous: "it is at the same time an algorithm of the relationships between participants, a platform for content placement, a combination of digital tools, and an information-analytical system" (32: 6). Based on such a broad interpretation, some authors argue that a digital environment (resource, platform) with artificial intelligence "as a participant in educational relationships can independently organize the educational process with the learner, selecting the necessary information and methodological resources for implementing the educational program according to pre-defined parameters" (13: 85-86), i.e. they impose additional functions on the digital environment that may not always be feasible or applicable. For example, the development of a foreign student as a future specialist is impossible without revealing their inner potential and defining the vector of personal development (Gao, 2021; Nathadwarawala & Unhelkar, 2020). In traditional education, the supporting and accompanying functions are performed by a teacher, who motivates the student and helps them adapt to the new socio-cultural environment. In the information environment, this function is only partially implemented - thanks to the virtual component of digital technologies, which ensures the creation of situations that are as close to reality as possible.

A controversial aspect in terms of the positive influence on foreign students is the excessive accumulation of information in the electronic educational environment. Due to insufficient language preparation, foreign students are not able to "refresh their knowledge" and find themselves in a situation of constant catching up with their Russian-speaking peers (Laskareva et al., 2021). This state, which is almost never paid attention to by teachers and psychologists, is a significant demotivating factor that does not allow students to fulfill their potential in the educational and professional sphere. Other negative phenomena and processes observed in modern educational practice are also related to these factors. For example, cases where the digital environment is an aim in itself and is used only for the sake of the digital environment; the education system becomes detached from reality and moves into a mode of "virtual reality".

It should also be noted that some researchers see the potential of digital technologies in overcoming ethnic and social gaps between different categories of students and teachers, in leveling the "communicative field" between individuals from different backgrounds. This is discussed, in particular, in the study by Nathadwarawala and Unhelkar (2020). However, in our opinion, this positive assumption is not entirely achievable. In this case, we are talking not only about the availability of technical possibilities for learning or any necessary competencies among

teachers and students, but about the inability to break stereotypes in learning at a specific stage. This applies to all areas of the education system. Undoubtedly, people can be taught to load a presentation, compose and perform a computer test, but it may take not only months but years to make these procedures natural. Therefore, at a university level, it is more appropriate to talk about the formation of positive motivation towards a new style of learning and its correct "ethnic interpretation".

Thus, the professional training of a foreign student can be full-fledged only under the complementary influence of three factors on an individual: 1) positive motivation (Adams et al., 2020; Paris & Paris, 2001; Yot-Domínguez & Marcelo, 2017) initiating influence of the educational digital environment (Alnagrat et al., 2022; Kalogiannakis et al., 2023; Xidirbaev & Abdurahmanov, 2021) sufficient (and necessarily positive) educational and professional experience that can only be acquired online within the framework of generating learning concept (Laskareva et al., 2021; Smith et al., 2019).

The digital format of professional training does not impose restrictions on the use of traditional forms of interaction but creates additional opportunities for the transmission and acquisition of knowledge, as well as for the implementation of professional skills in practice.

5. Conclusion

Currently, the professional training of foreign students is strongly influenced by the "mobility factor," which is why digital technologies are considered a necessary condition for forming future specialists. The methodological possibilities of the modern digital environment not only enable foreign students to acquire the necessary knowledge and skills for interaction in a multicultural space but also to some extent shape a new personality and ensure its continuous development in all areas of activity.

The analysis of existing concepts of digitizing professional education of students conducted within this study allowed selecting those that could be applicable for use in Russian universities. These are: 1) the concept of self-regulated learning; 2) the concept of supplementary learning; 3) the concept of generating learning. Despite existing limitations in the implementation of each concept, the latter is seen as the most promising in terms of the professional training of foreign students.

Currently, the process of professional training of foreign students in Russian universities follows the general principles laid down in educational programs. The national component and creating programs oriented towards foreign students **is** not usually considered, which is quite logical for cohort learning. Only some universities create independent programs for foreign students, and not all of them are implementable in a remote setting due to the lack of required infrastructure in a university or the lack of technological possibilities for foreign students from specific countries and regions. As a result, the efficiency of such programs is insufficient. However, digitalization of professional education is inevitable and has exceptional potential both in the field of direct professional education and in overcoming the ethnic and social gap between individual categories of participants in the educational process.

The next stage of the problem's development, in our view, is the experimental substantiation of the feasibility and effectiveness of using certain educational practices implemented within the existing concepts of digitalization of the professional training of foreign students.

References

Adams, D., Chuah, K. M., Sumintono, B., & Mohamed, A. (2022). Students' readiness for e-learning during the COVID-19 pandemic in a South-East Asian university: A rasch analysis. *Asian Education and Development Studies*, *11*(2), 324-339. https://doi.org/10.1108/aeds-05-2020-0100

Adams, D., Tan, M. H. J., & Sumintono, B. (2020). Students' readiness for blended learning in a leading Malaysian private higher education institution. *Interactive Technology and Smart Education*, *18*(4), 515-534. https://doi.org/10.1108/itse-03-2020-0032

Alnagrat, A. J. A., Ismail, R. C., & Idrus, S. Z. S. (2022). The opportunities and challenges in virtual reality for virtual laboratories. *Innovative Teaching and Learning Journal*, *6*(2), 73-89.

Anisimov, N. Y., Afanasyev, D. V., & Gohberg, L. M. (2022). *Education in numbers: 2022 (Obrazovanie v cifrah: 2022), in statistical collection.* Moscow: HSE University.

Antón, S. Á., Fernández Arias, P., & Vergara Rodríguez, D. (2023). Impact of the covid-19 pandemic on the use of ICT tools in science and technology education. *Journal of Technology and Science Education*, *13*(1), 130-158. https://doi.org/10.3926/jotse.1860

Antoniou, A., Vassilakis, C., Theodoropoulos, A., & Lepouras, G. (2018). *The human computer interaction and virtual reality lab (university of Peloponnese): Overview and current challenges.* Paper presented at the Proceedings of the "Cultural Informatics Research and Applications: State of the art and Open Challenges" Workshop, within the Euromed 2018 Conference CIRA@ EuroMed.

Arefyev, A. L. (2020). *Training of foreign citizens in educational institutions of higher education of the Russian federation* Moscow: Pushkin State Institute of the Russian Language.

Aviram, A., Ronen, Y., Somekh, S., Winer, A., & Sarid, A. (2008). Self-regulated personalized learning (SRPL): Developing iClass's pedagogical model. *ELearning Papers*, *9*(9), 1-17.

Bampatzia, S., Bourlakos, I., Antoniou, A., Vassilakis, C., Lepouras, G., & Wallace, M. (2016). *Serious games: Valuable tools for cultural heritage.* Paper presented at the In Games and Learning Alliance: 5th International Conference, GALA 2016, Utrecht, The Netherlands, December 5–7, 2016, Proceedings 5 (pp. 331-341). Springer International Publishing.

Batra, S., & Kumar, S. (2022). Amalgamation of ICT in education during Covid-19. *Research Review International Journal of Multidisciplinary*, *7*(2), 71-74. https://doi.org/10.31305/rrijm.2022.v07.i02.011

Cekha, V. V. (2021). Digital platforms as subjects of educational relations. *Science and School*, *3*, 81–93. https://doi.org/10.31862/1819-463X-2021-3-81-93

Cohen, M. S., & Ellis, T. J. (2002). *Developing a criteria set for an online learning environment.* Paper presented at the Proceedings - Frontiers in Education Conference, 1: T3E-8 – T3E-13.

Dubey, V., & Kanvaria, V. K. (2020). ICT in higher education: Overcoming the challenges. In G.S. Latwal, S.K. Sharma, P. Mahajan & P. Kommers (Eds.), Role of ICT in higher education. In (pp. 411-422). USA: Apple Academic Press. https://doi.org/10.1201/9781003130864-28.

Evers, K., & Chen, S. (2021). Effects of automatic speech recognition software on pronunciation for adults with different learning styles. *Journal of Educational Computing Research*, *59*(4), 669-685. https://doi.org/10.1177/0735633120972011

Fishwick, P. A., Henderson, J., Fresh, E., Futterknecht, F., & Hamilton, B. D. (2008). *Simulating culture: An experiment using a multi-user virtual environment.* Paper presented at the 2008 Winter Simulation Conference IEEE.

Fok, A. W., & Ip, H. S. S. (2004). Personalized education (PE) – an exploratory study of learning pedagogies in relation to personalization technologies, In W. Liu, Y. Shi and Q. Li (Eds.) Advances in web-based learning lecture notes in computer science. In (Vol. 3143, pp. 407–415). Berlin: Springer.

Gao, X. (2021). Engaging students in online learning: Technology-integrated distance learning for Chinese students at partner institutions in China. *Compass: The Journal of Learning and Teaching at the University of Greenwich*, *14*(3), 49–62.

Garcia, J., & Backer, P. (2005). *Integration of computer-based electronics laboratory in a control systems course.* Paper presented at the In ASEE Annual Conference (pp. 10-799).

Garganté, A. B., Naranjo, J. M., & Tamarit, C. G. (2014). Technology use for teaching and learning. *Píxel-Bit, Revista de Medios y Educación, 46*, 9-24. https://doi.org/10.12795/pixelbit.2015.i46.01

Goyal, S. (2012). E-learning: Future of education. *Journal of Education and Learning, 6*(4), 239-242.

Horvitz, B. S., Dabbagh, N., & Bannan-Ritland, B. (2007). Online learning: Concepts, strategies, and application. *Educational Technology Research and Development, 55*, 667–669. https://doi.org/10.1007/s11423-007-9071-4

Huerta, C. M., Atahua, A. S., Guerrero, J. V., & Andrade-Arenas, L. (2023). Data mining: Application of digital marketing in education. *Advances in Mobile Learning Educational Research, 3*(1), 621-629. https://doi.org/10.25082/amler.2023.01.011

Infante-Moro, A., Infante-Moro, J. C., Gallardo-Pérez, J., & Martínez-López, F. J. (2022). Key factors in the implementation of e-proctoring in the Spanish university system. *Sustainability, 14*(13), 8112. https://doi.org/10.3390/su14138112

Kalogiannakis, M., Zourmpakis, A. I., Menšíková, M., Lategan, F., Patelarou, A., Patelarou, E., . . . Papadourakis, G. (2023). Use of an e-toolkit in the development of digital competencies in weeks of international teaching. *Advances in Mobile Learning Educational Research, 3*(1), 702-717. https://doi.org/10.25082/amler.2023.01.019

Laskareva, E. R., Pozdnyakova, A. A., Bazvanova, T. N., Dmitrieva, D. A., & Chepkova, T. P. (2021). *Problems of teaching foreign students in mixed groups.* Paper presented at the In SHS Web of Conferences (Vol. 127, p. 02012). EDP Sciences.

Marcelo, C., & Rijo, D. (2019). Self-regulated learning of university students: The uses of digital technologies. *Revista Caribeña de Investigación Educativa, 3*(1), 62-81.

Moeller, A. J., Theiler, J. M., & Wu, C. (2012). Goal setting and student achievement: A longitudinal study. *The Modern Language Journal, 96*(2), 153-169. https://doi.org/10.1111/j.1540-4781.2011.01231.x

Morimoto, T., Kobayashi, T., Hirata, H., Otani, K., Sugimoto, M., Tsukamoto, M., . . . Mawatari, M. (2022). XR (extended reality: Virtual reality, augmented reality, mixed reality) technology in spine medicine: Status quo and quo vadis. *Journal of Clinical Medicine, 11*(2), 470. https://doi.org/10.3390/jcm11020470

Nathadwarawala, T., & Unhelkar, B. (2020). Impact of ICT on leveling the ethnicity divide in Order to promote student engagement in the education sector. In G.S. Latwal, S.K. Sharma, P. Mahajan & P. Kommers (Eds.) Role of ICT in higher education. In (pp. 363-372). USA: Apple Academic Press.

Neborsky, E. V. (2021). Digital university as an integrative methodological construct the world of science. *Pedagogy and Psychology, 9*(3), 1-14. https://doi.org/10.15862/41pdmn321

OECD. (2021). *Education at a Glance: OECD indicators.* Paris, France: OECD Publishing.

Paris, S. G., & Paris, A. H. (2001). Application of research in self-regulated classroom learning. *Educational Psychologist, 36*(2), 89–101. https://doi.org/10.1207/s15326985ep3602_4

Parvez, M. T., & Otri, S. (2017). Image processing based computational tools for assisting and assessing memorization and learning tasks. *International Journal of Education and Management Engineering, 7*(6), 1-13. https://doi.org/10.5815/ijeme.2017.06.01

Pathak, B. K. (2016). Emerging online educational models and the transformation of traditional universities. *Electronic Markets, 26*, 315-321. https://doi.org/10.1007/s12525-016-0223-4

Peres, P., & Pimenta, P. (2011). *B-learning theories and practices.* Lisbon: Edições Sílabo.

Pham, T. (2022). Implementing a student-centered learning approach at vietnamese higher education institutions: Barriers under layers of casual layered analysis (CLA). *Journal of Futures Studies, 15*(1), 21–38.

Potkonjak, V., Gardner, M., Callaghan, V., Mattila, P., Guetl, C., Petrović, V. M., & Jovanović, K. (2016). Virtual laboratories for education in science, technology, and engineering: A review. *Computers & Education, 95*, 309-327. https://doi.org/10.1016/j.compedu.2016.02.002

Pozdnyakova, A., Markova, E., Kolyadina, T., Zotov, V., & Kalita, M. (2022). *Analyzing social expectations of foreign graduates of Russian universities.* Paper presented at the Conference Proceedings: Managerial Sciences in the Modern World. EurAsian Scientific Editions SA, Geneva, Switzerland/EurAsian Scientific Editions OÜ, Tallinn, Estonia/Editors: T. Popadyuk, S. Gulyamov, S. Khashimkhodzhaev.

Pozdnyakova, A., Nikitaeva, E., Zotov, V., Kuznetsova, G., & Morozova, L. (2022). *Managing the labor adaptation process of foreign graduates of Russian universities. Operations and Project management: strategies and trends.* Paper presented at the II International Scientific and Practical Conference. Springer, Lecture Notes in Networks and Systemsseries.

Salim, H., Lee, P. Y., Ghazali, S. S., Ching, S. M., Ali, H., Shamsuddin, N. H., . . . Dzulkarnain, D. H. A. (2018). Perceptions toward a pilot project on blended learning in Malaysian family medicine postgraduate training: A qualitative study. *BMC Medical Education, 18*, 1-10. https://doi.org/10.1186/s12909-018-1315-y

Shiversky, M. R. (2007). *Baikal region in the global world. Creative era.* Paper presented at the Expert Seminars. Irkutsk.

Smith, C. A., Zhou, G., Potter, M., Wang, D., Pecoraro, M., & Paulino, R. (2019). Variability by individual student characteristics of student satisfaction with promising international student teaching practices. *Literacy Information and Computer Education Journal, 10*(3), 3160. https://doi.org/10.20533/licej.2040.2589.2019.0415

Song, D., & Oh, E. (2011). Learning styles based on the different cultural background of KFL learners in online learning. *Multimedia-Assisted Language Learning, 14*(3), 133-154. https://doi.org/10.15702/mall.2011.14.3.133

Suleimanov, D. F., & Porshnev, Y. I. (2008). Standards and data formats for working with competency profiles, possible ways of their development. *Scientific and Technical Bulletin of Information Technologies, Mechanics and Optics, 7*(8), 160–165.

Tai, D. W. S., Hu, Y.-C., Wang, R., Zhang, R.-C., & Chen, J.-L. (2013). *The visual presentation model for improving high school students' learning outcomes.* Paper presented at the IMSCI 2013 - 7th International Multi-Conference on Society, Cybernetics and Informatics, Proceedings (pp. 68–73).

Vergara, D., Rubio, M. P., & Lorenzo, M. (2018). A virtual resource for enhancing the spatial comprehension of crystal lattices. *Education Sciences, 8*(4), 153. https://doi.org/10.3390/educsci8040153

Wang, B. (2011). *An approach for engineering graphics education reform in modern information technology.* Paper presented at the In Advances in Computer Science, Environment, Ecoinformatics, and Education: International Conference, CSEE 2011, Wuhan, China, August 21-22, 2011. Proceedings, Part IV (pp. 42-46). Springer Berlin Heidelberg.

Xidirbaev, S., & Abdurahmanov, D. (2021). Theoretical and methodical aspects of the organization of students' independent study activities together with the use of ICT and tools. *TJSS-Tematics Journal of Social Sciences, 7*(2), 1-17. https://doi.org/10.2139/ssrn.3803104

Yot-Domínguez, C., & Marcelo, C. (2017). University students' self-regulated learning using digital technologies. *International Journal of Educational Technology in Higher Education, 14*, 1-18. https://doi.org/10.1186/s41239-017-0076-8

Zhang, C., Khan, I., Dagar, V., Saeed, A., & Zafar, M. W. (2022). Environmental impact of information and communication technology: Unveiling the role of education in developing countries. *Technological Forecasting and Social Change, 178*, 121570. https://doi.org/10.1016/j.techfore.2022.121570

Zhao, Y., Llorente, A. M. P., & Gómez, M. C. S. (2021). Digital competence in higher education research: A systematic literature review. *Computers & Education, 168*, 104212. https://doi.org/10.1016/j.compedu.2021.104212

Ziegler, N. A., & Moeller, A. J. (2012). Increasing self-regulated learning through the LinguaFolio. *Foreign Language Annals, 45*(3), 330-348. https://doi.org/10.1111/j.1944-9720.2012.01205.x

Zotov, V., Pozdnyakova, A., Morozova, L., Grafkova, T., & Kalita, M. (2022). *Management of the export of educational services in a modern university operations and project management: Strategies and trends.* Paper presented at the II International Scientific and Practical Conference. Springer, Lecture Notes in Networks and Systemsseries.