



TECHNOLOGIES OF TRANSFORMATION OF STUDENTS' INDEPENDENT LEARNING ACTIVITIES IN THE ENVIRONMENT OF INFORMAL EDUCATION

Parpiyeva Malika Mominovna

Associate Professor of the Department of "Pedagogy",
(PhD) Tashkent University of Applied Sciences

Abstract

This article examines the technologies used to transform students' independent learning activities in the environment of informal education. In contemporary pedagogical practice, informal education expands the boundaries of university-based learning by creating flexible, open, and learner-centered conditions for acquiring knowledge, developing skills, and strengthening self-regulated learning behavior. The study emphasizes that independent learning is no longer limited to completing assignments outside the classroom; rather, it becomes a dynamic process supported by digital platforms, online resources, mobile applications, peer communities, project-based tasks, and reflective tools. The article analyzes how these technologies influence students' motivation, autonomy, critical thinking, digital literacy, and ability to organize personal learning trajectories. Special attention is paid to the pedagogical conditions necessary for integrating informal learning resources into the educational process of pedagogical universities. The research argues that the transformation of independent learning activities requires methodological support, purposeful selection of digital tools, continuous feedback, and the formation of students' responsibility for their own educational outcomes.

Keywords: Informal education, independent learning, digital technologies, learning autonomy, self-regulated learning, pedagogical transformation, educational environment



INFORMAL TA'LIM MUHITIDA TALABALARNING MUSTAQIL O'QUV FAOLIYATINI TRANSFORMATSIYALASH TEXNOLOGIYALARI

Parpiyeva Malika Mominovna

Toshkent amaliy fanlar universiteti

"Pedagogika" kafedrası dotsenti, (PhD)

Annotatsiya

Mazkur maqolada informal ta'lim muhiti sharoitida talabalarning mustaqil ta'lim faoliyatini transformatsiyalash texnologiyalari tahlil qilinadi. Zamonaviy pedagogik amaliyotda informal ta'lim oliy ta'lim muassasasidagi an'anaviy o'quv jarayoni chegaralarini kengaytirib, bilim olish, ko'nikmalarni rivojlantirish va o'z-o'zini boshqarishga asoslangan ta'lim faoliyatini shakllantirish uchun moslashuvchan, ochiq hamda talaba markazidagi sharoitlarni yaratadi. Tadqiqotda mustaqil ta'lim faqat auditoriyadan tashqari topshiriqlarni bajarish bilan cheklanmasligi, balki raqamli platformalar, onlayn resurslar, mobil ilovalar, tengdoshlar hamjamiyati, loyiha asosidagi topshiriqlar va refleksiv vositalar yordamida tashkil etiladigan faol jarayon ekanligi asoslanadi. Maqolada ushbu texnologiyalarning talabalarning motivatsiyasi, mustaqilligi, tanqidiy fikrlashi, raqamli savodxonligi va individual ta'lim trayektoriyasini tashkil eta olish qobiliyatiga ta'siri yoritiladi. Informal ta'lim resurslarini pedagogika oliy ta'lim muassasalari o'quv jarayoniga integratsiya qilish uchun zarur pedagogik shart-sharoitlarga alohida e'tibor qaratiladi.

Kalit so'zlar: informal ta'lim, mustaqil ta'lim, raqamli texnologiyalar, ta'limiy mustaqillik, o'z-o'zini boshqarish, pedagogik transformatsiya, ta'lim muhiti.

Introduction

The transformation of students' independent learning activities has become one of the central issues in modern pedagogy, especially in the context of rapid digitalization, open access to information, and the expansion of informal education environments. In traditional higher education, independent learning was often understood as a supplementary form of academic work, mainly connected with homework, preparation for seminars, reading textbooks, and completing written assignments. However, the contemporary educational situation requires a broader interpretation of this concept. Independent learning is now viewed as a purposeful, self-regulated, reflective, and



***Modern American Journal of Linguistics,
Education, and Pedagogy***

ISSN (E): 3067-7874

Volume 2, Issue 5, May, 2026

Website: usajournals.org

***This work is Licensed under CC BY 4.0 a Creative Commons Attribution
4.0 International License.***

technologically supported process in which students actively construct knowledge, choose appropriate resources, evaluate information, communicate with others, and apply acquired knowledge in practical and professional contexts.

Informal education plays an important role in this transformation because it creates conditions for learning beyond the formal curriculum and classroom boundaries. Students today gain knowledge not only from lectures and textbooks, but also from online courses, educational videos, professional communities, webinars, social networks, digital libraries, podcasts, mobile applications, and collaborative platforms. These resources make learning more flexible, individualized, and practice-oriented. At the same time, the abundance of information requires students to develop critical thinking, digital literacy, self-discipline, and the ability to distinguish reliable knowledge from superficial or inaccurate content. Therefore, informal education should not be perceived as an uncontrolled or secondary learning space, but as a significant pedagogical environment that can enrich formal education when it is methodologically organized and consciously integrated.

For students of pedagogical universities, the transformation of independent learning has particular importance. Future teachers must not only master academic knowledge, but also learn how to organize their own professional development throughout life. The teaching profession demands continuous renewal of methodological, technological, communicative, and research competencies. In this regard, independent learning in an informal education environment becomes a foundation for lifelong learning, professional flexibility, and pedagogical creativity. A student who can independently search for information, analyze educational resources, participate in professional communities, design personal learning trajectories, and reflect on learning outcomes is better prepared for the challenges of modern education.

Technologies used in the informal education environment serve as instruments for activating and restructuring students' independent learning activities. Digital platforms provide access to diverse learning materials; mobile technologies support learning at any time and place; project-based tools encourage practical application of knowledge; communication technologies strengthen peer interaction; and reflective instruments help students monitor their progress. These technologies change the role of the student from a passive recipient of information to an active participant in the educational process. At the same time, they change the role of the teacher, who becomes not only a source of knowledge, but also a mentor, facilitator, consultant, and organizer of meaningful independent learning.



Thus, the study of technologies for transforming students' independent learning activities in the informal education environment is relevant for improving the quality of pedagogical higher education. This issue requires scientific analysis of methodological approaches, technological tools, pedagogical conditions, and expected learning outcomes. The effectiveness of such transformation depends on the harmonious connection between formal academic requirements and informal learning opportunities.

Methods

The methodological basis of the study is formed by a pedagogical analysis of the transformation of students' independent learning activities in the environment of informal education. The research is based on the idea that independent learning should be studied not only as an academic requirement, but also as a complex educational activity that includes motivation, goal setting, resource selection, self-organization, communication, reflection, and assessment of personal progress. Therefore, the study uses an integrated methodological approach that combines theoretical analysis, comparative interpretation, pedagogical observation, questionnaire-based inquiry, and modeling of educational conditions.

At the theoretical stage, scientific and pedagogical literature related to informal education, independent learning, digital pedagogy, self-regulated learning, lifelong learning, and student-centered education was analyzed. This made it possible to clarify the conceptual relationship between formal, non-formal, and informal education, as well as to identify the specific features of independent learning in a digitally enriched educational environment. Special attention was given to the role of digital resources, open educational platforms, mobile applications, virtual communities, and reflective technologies in expanding students' opportunities for independent cognitive activity. The theoretical analysis also helped to determine the main components of transformed independent learning: motivational, cognitive, technological, communicative, practical, and reflective components.

At the empirical stage, the study focused on the educational experience of students of pedagogical universities. The research examined how students use informal education resources in their independent learning, what difficulties they encounter, and what pedagogical support they need. Questionnaire-based inquiry was used to collect data about students' learning habits, preferred digital tools, level of independence, motivation for self-development, and attitude toward informal learning resources. Pedagogical observation was applied to identify how students plan independent tasks,



search for information, interact with peers, use online platforms, and present learning outcomes. These methods allowed the study to reveal both the advantages and the problems of informal education in the organization of independent learning.

The modeling method was used to design a pedagogical framework for transforming independent learning activities. This framework included several interconnected stages: diagnosis of students' independent learning skills, selection of informal education resources, organization of technology-supported learning tasks, monitoring of student progress, reflection on learning outcomes, and correction of individual learning trajectories. The model was developed with consideration of the specific needs of future teachers, because students of pedagogical universities must acquire not only subject knowledge, but also the ability to organize continuous professional self-development.

The study also used qualitative interpretation of learning outcomes. Students' independent work was evaluated according to such indicators as the ability to define learning goals, select reliable sources, apply digital tools appropriately, complete creative and project-based tasks, cooperate with peers, and critically reflect on results. Particular attention was paid to the connection between informal learning activities and formal academic objectives. This made it possible to determine whether informal education technologies strengthen students' academic performance, professional motivation, and readiness for lifelong learning.

Overall, the methodology of the study was aimed at identifying the pedagogical, technological, and organizational mechanisms that support the transformation of independent learning. The selected methods allowed the research to examine the problem from both theoretical and practical perspectives and to define effective conditions for integrating informal education opportunities into the educational process of pedagogical universities.

Results

The results of the study show that the informal education environment has a significant influence on the transformation of students' independent learning activities. The analysis revealed that students who actively use informal educational resources demonstrate greater flexibility in organizing their learning process, higher motivation for self-development, and stronger readiness to search for knowledge beyond the limits of classroom instruction. Independent learning becomes more meaningful when students are not restricted only to compulsory academic tasks, but are encouraged to use



***Modern American Journal of Linguistics,
Education, and Pedagogy***

ISSN (E): 3067-7874

Volume 2, Issue 5, May, 2026

Website: usajournals.org

This work is Licensed under CC BY 4.0 a Creative Commons Attribution 4.0 International License.

online courses, digital libraries, educational videos, professional blogs, webinars, electronic textbooks, and communication platforms as additional sources of knowledge. The study found that the most important result of using informal education technologies is the strengthening of students' learning autonomy. In the traditional model, students often wait for direct instructions from the teacher and complete tasks mainly for assessment. In the transformed model, students begin to set personal learning goals, choose suitable resources, plan the time and sequence of work, and evaluate their own progress. This indicates that informal education technologies support the development of self-regulated learning skills. Such skills are especially important for future teachers, because their professional activity requires continuous improvement, methodological renewal, and the ability to adapt to changing educational demands.

Another important result is the development of students' digital and information literacy. The use of informal education resources requires students to work with large amounts of information, compare different sources, identify reliable materials, and select content that corresponds to academic and professional objectives. During the study, it became clear that students who regularly used open educational platforms and digital resources became more attentive to the quality of information. They learned to distinguish scientific, methodological, and practical materials from superficial or unreliable content. This result confirms that informal education can contribute to the development of critical thinking if the process is supported by clear pedagogical guidance.

The research also showed that informal education technologies increase the practical orientation of independent learning. Project-based tasks, creative assignments, online discussions, and peer collaboration helped students connect theoretical knowledge with real pedagogical situations. For example, future teachers were able to analyze digital teaching materials, prepare micro-lessons, create presentations, participate in online discussions, and exchange methodological ideas with peers. As a result, independent learning became not only a process of reading and memorizing information, but also a form of active professional preparation.

The communicative aspect of independent learning also improved. Digital communities, group chats, online forums, and collaborative platforms created opportunities for students to ask questions, share resources, discuss difficult topics, and receive feedback. This strengthened peer learning and reduced the feeling of isolation that often appears during independent work. At the same time, the study revealed that communication in informal education environments needs pedagogical regulation,



because without clear academic goals students may become distracted or use digital platforms only for general conversation.

The results also identified several difficulties. Some students lacked skills in time management, source evaluation, and independent planning. Others used digital technologies passively, mainly for searching ready-made answers rather than constructing their own knowledge. Therefore, the transformation of independent learning cannot be achieved only by providing access to technologies. It requires systematic methodological support, teacher guidance, reflection, and continuous monitoring of students' learning strategies. Overall, the results confirm that informal education technologies can effectively transform students' independent learning activities when they are integrated with pedagogical purpose, academic responsibility, and reflective practice.

Discussion

The findings of the study indicate that the transformation of students' independent learning activities in the informal education environment should be understood as a deep pedagogical process rather than a simple transfer of learning tasks into digital space. Informal education gives students access to a wide range of resources, but access itself does not automatically lead to meaningful learning. The effectiveness of this environment depends on how students use available opportunities, how teachers guide them, and how independent learning is connected with academic and professional goals. Therefore, the main issue is not only the presence of technologies, but their purposeful pedagogical application.

One of the most significant aspects of the discussion is the changing nature of student autonomy. In traditional education, autonomy is often associated with the ability to complete tasks without direct teacher assistance. In the informal education environment, autonomy becomes broader and more complex. It includes the ability to identify personal learning needs, formulate goals, choose reliable resources, plan learning time, participate in educational communities, critically evaluate information, and reflect on personal progress. This means that students must gradually move from task-based independence to strategic independence. For pedagogical university students, this process has special value, because future teachers need to become lifelong learners who can continuously update their knowledge and adapt to new educational conditions.

The results also show that informal education technologies support the individualization of learning. Each student can choose resources according to personal interests, learning



pace, language level, professional needs, and preferred form of information. Some students learn more effectively through video lectures, while others prefer digital books, podcasts, interactive platforms, or project-based tasks. Such diversity creates favorable conditions for differentiated learning and personal educational trajectories. However, individualization should not mean complete separation from the formal educational process. If informal learning remains disconnected from university objectives, it may become fragmented and unsystematic. Therefore, teachers should help students connect informal resources with curriculum content, professional competencies, and assessment criteria.

Another important point is the role of the teacher in transforming independent learning. In the informal education environment, the teacher's function does not disappear; rather, it changes. The teacher becomes a facilitator, mentor, methodological consultant, and organizer of reflection. Students may have access to thousands of digital resources, but they still need guidance in selecting, analyzing, and applying them. Without pedagogical support, students may rely on unreliable sources, copy ready-made materials, or use technologies only superficially. Teacher guidance helps transform informal learning from random information consumption into a meaningful educational activity.

The communicative potential of informal education also deserves attention. Digital communities, online discussions, and peer collaboration create opportunities for students to learn from each other and develop social learning skills. This is particularly important in pedagogical education, where professional development depends not only on individual knowledge, but also on communication, cooperation, and exchange of methodological experience. At the same time, online interaction requires academic discipline, ethical communication, and clear learning objectives. Otherwise, collaborative platforms may lose their educational function.

Overall, the discussion confirms that informal education technologies can significantly enrich students' independent learning when they are used systematically. Their pedagogical value lies in developing autonomy, motivation, digital literacy, critical thinking, professional reflection, and readiness for continuous self-development. However, these outcomes can be achieved only through methodological organization, teacher support, responsible student participation, and the integration of informal learning opportunities with formal academic requirements.



Conclusion

The transformation of students' independent learning activities in the environment of informal education is an important pedagogical process that reflects the changing nature of higher education in the digital era. Independent learning can no longer be understood only as a form of work performed outside the classroom. It is becoming a complex, self-regulated, technology-supported, and professionally oriented activity in which students independently search for information, select learning resources, communicate with peers, analyze content, complete creative tasks, and evaluate their own progress. In this sense, informal education expands the possibilities of pedagogical universities by connecting formal academic preparation with flexible, open, and practice-based learning opportunities.

The study shows that informal education technologies create favorable conditions for developing students' autonomy, motivation, digital literacy, critical thinking, and readiness for lifelong learning. Online courses, educational platforms, mobile applications, digital libraries, webinars, virtual communities, project-based tools, and reflective instruments allow students to organize learning according to their individual needs and professional interests. These tools make the learning process more flexible and meaningful, because students can continue education beyond the limits of the classroom, timetable, and traditional textbook. As a result, independent learning becomes more dynamic and closer to real professional practice.

At the same time, the transformation of independent learning does not happen automatically. The availability of digital resources is not enough to ensure educational effectiveness. Students need methodological support, clear learning objectives, assessment criteria, feedback, and opportunities for reflection. Without these conditions, informal education may lead to fragmented knowledge, passive consumption of information, dependence on ready-made materials, or superficial use of digital technologies. Therefore, the teacher's role remains very important. In the transformed learning environment, the teacher acts as a mentor, facilitator, consultant, and organizer of students' independent cognitive activity.

For students of pedagogical universities, this issue has special significance. Future teachers must be able to organize not only the learning of others, but also their own continuous professional development. The ability to learn independently in an informal education environment forms the basis for professional flexibility, methodological creativity, and adaptation to new educational demands. A future teacher who can critically analyze digital resources, participate in professional communities, design



personal learning trajectories, and reflect on personal achievements will be better prepared for modern pedagogical activity.

The research confirms that the effective transformation of independent learning requires the integration of informal education resources with formal academic goals. Informal learning should not replace university education, but should enrich it by providing additional opportunities for practice, communication, self-development, and professional exploration. The most productive model is one in which formal and informal learning environments complement each other. In such a model, university education provides structure, scientific basis, and pedagogical guidance, while informal education offers flexibility, openness, diversity of resources, and individualization.

Thus, technologies of transformation of students' independent learning activities in the environment of informal education should be applied purposefully and systematically. Their effectiveness depends on the unity of pedagogical design, digital competence, student responsibility, teacher guidance, and reflective assessment. The development of such an approach can improve the quality of pedagogical higher education and prepare future specialists who are capable of continuous learning, independent thinking, and professional self-improvement.

References

1. Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
2. Knowles, M. S. (1975). *Self-directed learning: A guide for learners and teachers*. Association Press.
3. UNESCO. (2012). *Guidelines for the recognition, validation and accreditation of the outcomes of non-formal and informal learning*. UNESCO Institute for Lifelong Learning.
4. Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. *Theory Into Practice*, 41(2), 64–70.
5. Redecker, C. (2017). *European framework for the digital competence of educators: DigCompEdu*. Publications Office of the European Union.
6. Marsick, V. J., & Watkins, K. E. (1990). *Informal and incidental learning in the workplace*. Routledge.
7. Pintrich, P. R. (2004). A conceptual framework for assessing motivation and self-regulated learning in college students. *Educational Psychology Review*, 16(4), 385–407.



8. European Commission. (2001). Making a European area of lifelong learning a reality. Office for Official Publications of the European Communities.
9. Schunk, D. H. (2012). Learning theories: An educational perspective. Pearson.
10. Siemens, G. (2005). Connectivism: A learning theory for the digital age. *International Journal of Instructional Technology and Distance Learning*, 2(1), 3–10.
11. Ministry of Higher and Secondary Specialized Education of the Republic of Uzbekistan. (2020). Concept for the development of the higher education system of the Republic of Uzbekistan until 2030. Tashkent.
12. Candy, P. C. (1991). Self-direction for lifelong learning: A comprehensive guide to theory and practice. Jossey-Bass.
13. UNESCO. (2015). Rethinking education: Towards a global common good? UNESCO Publishing.
14. Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Prentice Hall.
15. OECD. (2019). OECD future of education and skills 2030: Conceptual learning framework. OECD Publishing.
16. Merriam, S. B., Caffarella, R. S., & Baumgartner, L. M. (2007). Learning in adulthood: A comprehensive guide. Jossey-Bass.
17. Boekaerts, M., Pintrich, P. R., & Zeidner, M. (Eds.). (2000). Handbook of self-regulation. Academic Press.
18. Eraut, M. (2004). Informal learning in the workplace. *Studies in Continuing Education*, 26(2), 247–273.
19. Zimmerman, B. J., & Schunk, D. H. (Eds.). (2011). Handbook of self-regulation of learning and performance. Routledge.
20. Cross, K. P. (1981). Adults as learners: Increasing participation and facilitating learning. Jossey-Bass.