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Educational policy of life quality of social and cultural forms of the educational organisation throughout life

Política educativa de calidad de vida de las formas sociales y culturales de la organización educativa a lo largo de la vida

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Written by:
Natalia Ridei
https://orcid.org/0000-0002-5553-059X
Researcher ID *K-9259-2018
Scopus Author ID*55389896500

Natalia Tytova
https://orcid.org/0000-0002-9415-4427
Researcher ID *B-5293-2016
Scopus Author ID*57218378666

Liudmyla Kanova
https://orcid.org/0000-0001-9371-1343

Oksana Slonovska
https://orcid.org/0000-0002-7019-4918

Lesya Panchenko
https://orcid.org/0000-0001-8436-1206

Abstract

The relevance of the study of continuous education through the prism of the analysis of its socio-cultural dimension lies in the needs of studying modern transformations of educational systems in the cultural and educational plane. The purpose of this article is to analyze the educational policy of the quality of life of socio-cultural forms of education throughout life. The article is based on the use of theoretical pedagogical research methods: analysis, synthesis, induction, and deduction. The content analysis of professional literature showed that scientists do not pay much attention to lifelong education. This is explained by the criticism of some of its principles in scientific circles. The results highlight the historical foundations of permanent education, outline its main socio-cultural features and principles of use in practice.

Resumen

La relevancia del estudio de la educación continua a través del prisma del análisis de su dimensión sociocultural radica en las necesidades de estudiar las transformaciones modernas de los sistemas educativos en el plano cultural y educativo. El propósito de este artículo es analizar la política educativa de la calidad de vida de las formas socioculturales de educación a lo largo de la vida. El artículo se basa en el uso de métodos de investigación pedagógica teórica: análisis, síntesis, inducción y deducción. El análisis de contenido de la literatura profesional mostró que los científicos no prestan mucha atención a la educación permanente. Esto se explica por la crítica de algunos de sus principios en los círculos científicos. Los resultados ponen de relieve los fundamentos históricos de la educación permanente, esbozan sus principales
analyze European and American models of implementation of this type of education. Practical significance: creating a recommendation for the implementation of continuous education in Ukraine and revealing its additional advantages. In the conclusions, it is noted that this synthesized study in general opens a wider discussion on the justification of the need to harmonize the European and Ukrainian education systems through the prism of the analysis of the socio-cultural significance of continuous education.

**Keywords:** lifelong education, continuous education, socio-cultural significance, Ukraine.

**Introduction**

The latest challenges for the information society lead to tangible societal transformations. One of the advanced spheres is education, which must respond to structural, age, gender, scientific paradigm variables and meet the current requirements and current demands of society. One of the products of the current development of scientific ideas is lifelong learning (also permanent education, continuing education, etc.), which acts as a kind of bridge between traditional learning and social and educational requirements that require at least partial satisfaction. The main attention of the article is paid to the genesis and development of the concept of lifelong learning, its current meaning, and patterns of use.

Additionally, the relevance of the topic is emphasized by the lack of serious synthetic studies, which would reflect both the historical origins of permanent learning and outline the immediate prospects for further development with a special emphasis on the Ukrainian realities.

The article aims to analyze the educational policy of quality and life safety of socio-cultural forms of lifelong learning. The study of this issue involves the disclosure of the following problems, in particular the study of the historical origins and characteristics of lifelong learning, highlighting the basic principles of lifelong learning, and consideration of models of implementation of permanent education through the prism of international experience in its implementation. This structure will reflect the socio-cultural dimension of the problems under study and outline the range of prospective issues to be considered in the future.

Note that at present there are several other terms related to continuing education: “continuing education”, “lifelong education”, “permanent education”, “continuing education”, “renewing education”. These terms are used as synonyms by the authors of the article.

**Literature Review**

The literature base of the study are the works of European and American scientists and educators who have studied the peculiarities of modern education, its main trends, and prospects for transformation. Aghion et al. (2021) analyzed the key aspects of the introduction of innovative digital technologies in the educational system, characterized the importance of certain competencies for the modern teacher. At the same time, Conte et al. (2019) in their empirical study described the peculiarities of the application of modern educational platforms, outlined the special role of distance education in the system of training modern competitive specialists. On the other hand, Hamzah et al. (2021) characterized the main problematic aspects of the application of e-learning principles, also the author investigated the role of educational platforms to support continuing education. At the same time, Fuad et al. (2020) analyzed the key trends in the development of education, defined the importance of computer technology in the modern education system. Sydoruk et al. (2022) described modern innovations contributing to the development of education, investigated the main aspects of formation professional competence in adaptive-digital environment conditions of higher educational institution. Tytova & Mereniuk (2022) characterized the Ukrainian experience of developing digital literacy for future university
teachers. The results of the study reflect the general state of digital literacy in Ukrainian society against the background of the spread of Russian military aggression. The researchers noted that the Ukrainian government has offered several platforms for independent digital literacy development. We believe that such a fact also contributes to the spread of the principles of lifelong learning. Graves (2018) identified the basic principles of lifelong learning, justified his own understanding of this phenomenon in the educational system. Also, the author noted that continuing education has an effect on slowing or counteracting the effects of age-related cognitive decline. In addition, the use of lifelong self-education can increase existing human working memory. At the same time, Hoggan (2020) observed in his study that a person should learn throughout his life. This author also characterized the problem of the transformation of continuing education. Key principles, functions of continuing education, considered Huebener (2020). At the same time, aspects of the influence of socio-cultural features of learning on the transformation of lifelong learning remain understudied. Also, a comprehensive view of the models of the formation of permanent education has not been investigated.

Methodology

The article was formed based on the use of pedagogical theoretical methods of research: analysis, synthesis, induction, deduction. Of particular importance was the use of special scientific methods: historical, logical. In particular, based on the historical method traced the genesis of lifelong learning, pointed out its main stages of formation. Based on the prognostic method the further significance of lifelong learning was outlined and the possible ways of its further use were determined.

Based on the axiological method it was possible to pass from general statements to the formation of our own conclusions and recommendations. As a result of using a systematic method of research, the phenomenon of lifelong learning has been considered as a system consisting of many actively changing elements.

The key materials of the study were the official Ukrainian legislative acts, in particular:

1. The concept of digital transformation of education and science in Ukraine (Ministry of Education and Science of Ukraine, 2021).
2. Development Strategy of Higher Education of Ukraine for 2021-2031 (Ministry of Education and Science of Ukraine, 2022).
3. Laws of Ukraine “On Higher Education” (Law No. 1556-VII, 2014)

The above documents are a systematic perception of the current transformation of the education sector in Ukraine and meet the main aspects of the implementation of the provisions of state policy on the future development of education.

The study was conducted in several stages: the first - a review of scientific literature, outlined the little-studied issues of further development of lifelong learning, the second - characterized the concept of lifelong learning, outlined its main principles, functions, and features of implementation, and so on, the last - summarized the results and formed his own vision of the features of using this form of education in Ukraine, characterized the main prospects of its implementation and use.

Results and Discussion

In the new educational system, the basic fundamental element is the concept of lifelong learning. It meets the modern globalized challenges of society and contributes to the emergence of new concepts and methods of updating educational socio-cultural reference points. For this reason, lifelong learning becomes a noticeable factor in the complete innovative improvement of society, the main factor for success in other spheres of human activity. There are several functions of continuing education: sociocultural, developmental, compensatory, adaptive, technological, etc. (See Table 1).
Table 1.
Main functions of continuing education

| Functions of lifelong learning | Consists in the satisfaction of knowledge of the achievements of mankind throughout its development, the formation of a high level of culture and education |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Socio-cultural                | Development of spiritual needs, the formation of factors for further creative growth of the individual |
| Developing                    | Overcoming deficiencies and gaps in basic education, supplementing knowledge with new relevant information |
| Compensation                  | Learning to work with modern digital technology, the formation of skills and abilities, digital competence |
| Technological                 | Formation of flexible professional training, retraining, and personal development, which contributes to the transformation and renewal of the overall professional experience |
| Adaptive                      | Acquiring new knowledge, skills, and abilities against the backdrop of constant transformation and change, development of information technology and resources |
| Transformative                | Contributes to the needs of society, the country, individual regions, or industries. Forms highly qualified, competitive specialists |
| Economic                      | with the process of inner growth of the individual. Famous encyclopedists (Jean-Jacques Rousseau, Voltaire, Montesquieu) formed the actual concepts of personal development, based on which the modern idea of lifelong learning is formed. |

The Cultural Origins of Lifelong Learning: From Philosophical Concepts to Practical Uses

The era of Antiquity was a significant period for the emergence and further transformation of pedagogical ideas. Among them are the ideas of permanent education, which in different variations were proposed by the philosophers Socrates, Confucius, Aristotle, Seneca, Plato. However, the main sources of such education were religious and philosophical teachings. The main goal of ancient lifelong learning was to achieve the full spiritual perfection of man. In the Middle Ages, the ideas of education changed. The notions of lifelong learning were based on religious principles of the universe. The key goal of education at that time was to achieve holistic spiritual unity with God. For this reason, we can speak of medieval continuing education in a theological concept. The emergence of secular universities laid the foundation for the entire university system around the world. The combination of the more necessary parts of ancient, medieval, new, and modern times synthesized the prerequisites for the development of continuing education. Particularly in the modern era, continuing education was associated with the process of inner growth of the individual. Famous encyclopedists (Jean-Jacques Rousseau, Voltaire, Montesquieu) formed the actual concepts of personal development, based on which the modern idea of lifelong learning is formed.

Nowadays - lifelong learning as a whole forms the growth of the intellectual (as well as professional) ability of the individual. This, in turn, organizationally provides a system of state and social institutions and meets the modern requirements of the transformation of society. Rapid changes in the labor market require acquiring new knowledge and skills not only in the process of professional training but also directly in the period of labor activity, which can be solved by lifelong learning.

Sociocultural Elements and Principles of Continuing Education

The main goal of modern lifelong learning is the comprehensive maturation of the individual both during his/her physical and psychological development (Huebener, 2020). Consequently, modern literature treats the process of lifelong learning on the one hand as a pedagogical
concept, and on the other hand as a phenomenon of pedagogical practice.

In a 1976 report from UNESCO, permanent education is a large-scale project aimed at renewing the actual system of learning and the transformation of other important non-systemic opportunities. The creators of this report note that the personal experience of continuing education is the most complex kind of social relationship. The system-forming factor in lifelong learning is the social requirement in the stable development of each individual (Leon-Martinez & Tapia-Rangel, 2020). This factor determines the composition of many educational structures -

general and parallel, primary and secondary, public and private, formal and non-public (Amor et al., 2019). Their connection and mutual activity, mutual multilevel subordination, organization of joint activities form continuing education as a single system (Aghion et al., 2021).

Taking this principle as a basis, we offer to scientific attention our own interpretation of continuing education - it is a set of tools, ways, methods, means, and forms of obtaining, improving, and expanding general knowledge, professional competencies, cultural, educational, social and ethical maturity (See Figure 1).

![Figure 1. Key elements of continuing education](image)

*Developed by the authors of the article*

The roles of continuing education can undergo changes in accordance with its main purpose, for example, for a particular person, it will become a means of obtaining and forming knowledge, satisfaction, and knowledge of spiritual and physical needs, development of talents and abilities in the system of public social educational institutions and by obtaining self-education (Conte et al., 2019). For the state, the meaning of permanent education is somewhat different: it consists in the formation of a certain social policy, the ultimate goal of which is the universal and professional development of all members of society.

For society, continuing education serves as a tool for the expansion and reproduction of its professional and cultural potential, is a condition for the transformation of social economy and industry, contributes to the acceleration of social and economic development of the state (OECD, 2022). At the same time, for the global community, lifelong education performs the function of preservation, mutual enrichment, and development of world cultures and common moral attitudes, moral values (Graves, 2018). Moreover, in this system, lifelong learning is a powerful factor in international cooperation in learning and the realization of the major global challenges of humanity.

The key sociocultural and pedagogical principles of lifelong learning can be considered:

1. philosophical and pedagogical concept of education development, according to which the learning process encompasses the whole life of an individual;
2. diversity of the educational system, which is a permanent, stable, purposeful assimilation of the human socio-cultural patrimony of previous generations; (Hoggan, 2020).
3. aspect of the construction of education at the level of the state and individual regions; 4. mechanism of implementation of state educational policy; (Graves, 2018).
4. current global trends and the future of education; (OECD; (OECD, 2022)
5. consideration of the latest theories and concepts of world pedagogical science. (Hoggan, 2020).

Consequently, continuing education is an integral entity characterized by dynamism, continuity, flexibility, etc.

Models for implementing continuing education

The implementation of the sociocultural function of lifelong learning is based on the following structural models: lifelong learning, lifelong education, self-motivated education. The first principle is based on the concept that learning is equal to the human lifespan (Graves, 2018). This approach implies that humanity needs to constantly improve, develop its knowledge, skills, and abilities. Lifelong learning encompasses the learning of different aspects of an individual’s activities, involves improving both his professional skills and other general skills (Hoggan, 2020). The principle of self-motivation to learn implies that a person consciously strives to develop mentally and improve his knowledge (See Figure 2).

Figure 2. The main structural models of the sociocultural system of continuing education

Developed by the authors of the article

In professional education in the U.S., lifelong learning is called “continuing education”. It is primarily implemented by universities, but professional educational associations are also involved in adult education. The Massachusetts Institute of Technology has developed a program of “continuing cooperative education”, which provides continuing education for technologists and engineers throughout their careers. This is provided at the level of universities and public firms. Europe uses the dual principle of continuing education (Huebener, 2020). It is a combination of training in educational institutions with practical training in enterprises and organizations. In Germany, there are general (allgemeine), professional (berufliche) professional-scientific (wissenschaftliche), cultural (kulturelle), and political (politishe) additional types of adult education. Such additional education (continuous) is provided by folk universities.

In the Ukrainian reality, the legislation proclaims the importance of sustainable development of society through the preparation of competitive human capital, the formation of the necessary conditions for lifelong learning. In Ukraine, permanent education has not received systematic development. Existing legislation, such as the Law of Ukraine “On Non-School Education” is unable to improve the situation because they do not take into account the possibility of including out-of-school education in the general education system as a whole, bypassing the urgent
challenges of quality assurance and control and recognition of knowledge acquired in non-formal education. There are no statistics on this issue, and there are no special concepts and programs to promote this integration. However, lifelong learning is gradually taking a leading position in modern educational methods around the world (Kem, 2022). For this reason, there is a need for tangible measures in Ukraine in order to bridge the gap with European and American pedagogical models of development.

In particular, the Ukrainian realities are tangible socio-cultural trends that generally contribute to the further progress of permanent learning. First of all, it is important to highlight the following:

1. Increasing the weight of human capital for the growth of national wealth. In developed countries, human capital accounts for at least 65% of national wealth proportions, while natural and physical capital accounts for 20% and 15%, respectively. The greatest economic impact of human capital is felt in such developed countries as Finland, Switzerland, Germany, Japan, and the USA, where it can be estimated at more than 80% of national wealth. Further growth of national wealth is guaranteed primarily by the conditions that are created to shape the prospects of using human capital (Florian, 2019). One of these conditions is primarily education.

2. Unprofitable trends in demographic development. The decreasing birth rate and the general growth of middle age (aging of the population) entail the need to form prerequisites for the education of persons already mature and even older. Adult education is one of the most important factors in the current socioeconomic situation (Huebener, 2020).

3. The growing need to update professional knowledge. The pace of technology development and comprehension of the possibilities of its use leads to a systematic revision of already known information in the leading industries about a quarter annually. For example, in the realities of the U.S. professional competence in 5 years experiences “aging”, that is, during this period, curricula and training systems need radical renewal. In Ukrainian conditions the terms of training of specialists are higher than 5 years, i.e., specialists with already outdated knowledge receive university diplomas. The solution to this problematic condition may lie in a gradual transition to lifelong learning, in which basic education is partially renewed through additional training programs. In such circumstances, it will become a solid foundation of education not so much a completed and exhaustive education, but the basis for further learning.

4. Approval of the theory of lifelong learning in the European educational environment. Such education is designed to develop the necessary skills, knowledge, and abilities to work in today’s information society. This includes digital literacy, the development, and dissemination of innovative and improved types of learning, access to educational technology for people of all ages, etc. (Tytova & Mereniuk, 2022). The Council of Europe has decided that permanent education is an important component of the modern European social model. It is not only a matter of immediate importance but also critical factors in employment and social welfare, economic development, and increased competitiveness (Laufer et al., 2021).

The modern system of national security of Ukraine, covering humanitarian, social, economic components, requires appropriately trained personnel to respond to the challenges of our time (Law No. 1556-VII, 2014). The problematic of lifelong learning should be divided into several sociocultural factors. The first is related to the development of the system of permanent education, which will become part of social practice (a socio-educational aspect of lifelong learning). The second one is connected with the processes of assimilation of new life, social, professional realities, and formation of updated experience. It is for this reason adult education is proclaimed a peculiar combination of the principles of lifelong learning with the principles of lifelong learning, and then - in general - with the formation of the information society (Tsekhmister et al., 2021). Therefore, an urgent task is to try to fix in the public consciousness of society the mutual responsibility of people, the state, and specific individuals for the development of learning models.

The content of continuing education in European and American practice is usually divided into several significant components related to adult education (Hoggan, 2020). This refers to literacy instruction in the broad sense of the word, i.e., computer literacy, language literacy, social literacy, etc. (Tytova & Mereniuk, 2022). Also important is vocational education, which consists of vocational training, retraining, and
professional development. The next element is general cultural additional education not directly related to a job, profession, or qualification (Hoggan, 2020). Consequently, researchers in Europe and the U.S. roughly categorize the goals of such permanent education into several components.

The first element of lifelong learning, which forms additional vocational education, is the formation of the professional basis of the human resource potential of today’s high-tech economy (Leon-Martinez & Tapia-Rangel, 2020). The main consumers of this part of continuing education are the socially adapted parts of society, consistently trained at all levels. The second element is the ability to adapt in a changing social environment. This element will perform educational functions for a group of individuals in need of social rehabilitation, unable to adapt independently to the fast-paced conditions and abrupt changes in the social environment (Sydoruk et al., 2022). In addition, this subsystem involves citizens who, because of a number of other problems, are deprived of access to the traditional educational system, which forms the prerequisites for their desocialization. The third component of the permanent learning system has the function of entertaining the various individual learning requirements of citizens (Leon-Martinez & Tapia-Rangel, 2020). We are talking, for example, about language learning, obtaining psychological, cultural, and other information, communication skills, special skills, etc. These European and American innovations are still little known to Ukrainian society. However, a gradual shift of emphasis on non-formal education allows for a positive assessment of attempts to transform the Ukrainian educational environment and harmonize it with modern requirements.

Conclusions

So, in the educational system of the XXI century, the main fundamental element is the concept of lifelong learning. This principle corresponds to the challenges of fleeting learning trends and leads to new interpretations regarding value aspirations and life orientations. We believe that the requirements of updating education, increasing professional competence, development of acquired knowledge and skills should serve as a response to the challenges of our time, take into account global changes associated with the introduction of new computer technology in all areas of educational activity. Under such conditions, continuing education becomes a condition for the full innovative improvement of society, the main one for success in other spheres of human activity.

For modern globalized society lifelong learning serves as a tool for expanded human professional and cultural potential, so it is a condition for the transformation of sociocultural mechanisms. In particular, the article proves the importance of lifelong learning in the educational systems of Europe and the USA, points to the formation of new value aspirations of the modern generation of education applicants, taking into account the development of digital technology and professional requirements.

The high level of cultural awareness and education is the key in the system of lifelong learning. For Ukraine, these challenges are also relevant, as the general requirements of economic development transformation of the educational industry and technology need to update the educational industry as a whole. The proposed synthesis study points to the need for change in the Ukrainian legislation in the field of non-formal education opens the discussion on a broader justification for the need to harmonize the European and Ukrainian systems of education.

Bibliographic references

Aghion, F., Cherif, R., & Hasanov, F. (2021). Competition, Innovation, and Inclusive Growth. IMF Working Papers, 2021(080), 1-7. doi: https://doi.org/10.5089/9781513574172.001

Amor, A. M., Hagiwara, M., Shogren, K. A., Thompson, J. R., Verdugo, M. A., Burke, K. M., & Aguayo, V. (2019). International perspectives and trends in research on inclusive education: a systematic review. International Journal of Inclusive Education, 23(12), 1277–1295. doi: https://doi.org/10.1080/13603116.2018.1445304

Conte, E., Habowski, A. C., & Rios, M. B. (2019). Ressonâncias das tecnologias digitais na educação. Revista Ibero-Americana de Estudos em Educação, 14(1), 31–45. doi: https://doi.org/10.21723/riae.v14i1.11110

Florian, L. (2019). On the necessary co-existence of special and inclusive education. International Journal of Inclusive Education, 23(7–8), 691–704. doi: https://doi.org/10.1080/13603116.2019.1622801

Fuad, D. R. S. M., Musa, K., & Hashim, Z. (2020). Innovation in education: A
systematic review of the literature. Journal of Educational Research & Indigenous Studies, 2(1), 1–11. doi:10.1177/0892020620959760
Graves, M. R. (2018). Lifelong learning. SFU Educational Review, 11(1), 91–96. doi: https://doi.org/10.21810/sfuer.v11i1.755
Hamzah, N., Ahmad, M.F., Zakaria, N., Ariffin, A., & Rubani, S.N.K. (2021). Technical and Vocational Education Students’ Perception of Using Learning Videos during Covid-19 Pandemic Period. In 2021 IEEE International Conference on Automatic Control & Intelligent Systems (i2CACIS). IEEE. doi: https://doi.org/10.1109/i2cacis52118.2021.9495895
Hoggan, C. (2020). Editor's note: Transformative education throughout the life span. Journal of Transformative Education, 19(1), 3–6. doi: https://doi.org/10.1177/1541344620957647
Huebener, M. (2020). Parental education and children's health throughout life. In The Economics of Education (pp. 91–102). Elsevier. doi: https://doi.org/10.1016/b978-0-12-815391-8.00007-0
Kem, D. (2022). Personalised and adaptive learning: Emerging learning platforms in the era of digital and smart learning. International Journal of Social Science and Human Research, 05(02), 385-391. doi: https://doi.org/10.47191/ijsshr/v5-i2-02
Law No. 1556-VII. About higher education. Verkhovna Rada of Ukraine, December 2014. Retrieved from https://zakon.rada.gov.ua/laws/show/1556-18#Text
Laufer, M., Leiser, A., Deacon, B., Perrin de Bichambaut, P., Fecher, B., Kobsda, C., & Hesse, F. (2021). Digital higher education: a divider or bridge builder? Leadership perspectives on edtech in a COVID-19 reality. International Journal of Educational Technology in Higher Education, 18(1), 1-17. doi: https://doi.org/10.1186/s41239-021-00287-6
Leon-Martinez, J., & Tapia-Rangel, E. (2020). Building New Spaces for Education throughout Life, Aprendo+ Courses. EDEN Conference Proceedings, 1, 398–406. doi: https://doi.org/10.38069/edenconf-2020-ac0038
Ministry of Education and Science of Ukraine (2021, May 25) Concept of digital transformation of education and science: MES invites public discussion. Retrieved from https://mon.gov.ua/ua/news/koncepciy a-cifrovoyi-transformaciyi-osviti-i-nauki-mon-zaprosuyu-do-gromadskogo-obbovorennya
Ministry of Education and Science of Ukraine (2022, April 15) The Strategy for the Development of Higher Education in Ukraine for 2022-2032. Retrieved from https://mon.gov.ua/ua/news/opublikova no-strategiyu-rozvitku-vishoyi-osviti-v-ukrayini-na-2022-2032-roki
OECD (2022). Global trends and the future of education. In Trends Shaping Education 2022. doi: https://doi.org/10.1787/bbdf63c5-en
Popovych, I., Arbeláez-Campillo, D. F., Rojas-Bahamón, M. J., Burlakova, I., Kobets, V., & Bokshan, H. (2021). Time perspective in the professional activity of specialists of economic sphere. Cuestiones Políticas, 39(69), 424-445. https://doi.org/10.46398/cuestpol.3969.27
Sydoruk, L., Bakhmat, N., Poberezhts, H., Misenyova, V., & Boyarova, O. (2022). Formation of future economist professional competence in adaptive-digital environment conditions of higher educational institution. International Journal of Health Sciences, 6(1), 103-114. doi: https://doi.org/10.53730/ijhs.v6n1.3390
Tsekhmister, Y.V., Kotyk, T.M., Matviienko, Y.S., Rudenko, Y.A., & Ilchuk, V.V. (2021). La efectividad de la tecnología de realidad aumentada en la educación STEAM. Apuntes Universitarios, 12(1), 250–267. doi: https://doi.org/10.17162/au.v11i5.932
Tyto, N., & Mereniuk, K. (2022). Digital literacy of future teachers in the realities of large-scale military aggression (Ukrainian experience). Futurity Education, 2(3), 43–54. doi: https://doi.org/10.57125/FED/2022.10.11.13

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