METHODOLOGICAL SUPPORT OF TEACHING FUTURE EDUCATORS THE DESIGN OF AN INFORMATION EDUCATIONAL ENVIRONMENT IN THE PROCESS OF PROFESSIONAL PREPARATION

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The article examines the relevant needs of methodological support for the training of future educators to design an information educational environment in the process of course planning (topics, modules, units, and educational sessions).

The purpose of the article is to determine the specifics and main directions of methodological support for the professional training of future educators in the process of studying the course "Pedagogical Design" whose main task is to teach the design of a holistic information educational environment. The development of methodological support for the training of future educators to design an information educational environment required completing the following tasks: studying the state of readiness for designing an information educational environment by future educators, as well as practicing educators; analysis of the requirements for the information educational environment and the current state of the problem in practice; identifying the leading methodological aspects of work in a digital educational environment that is modern, accessible and personal-centred.

In order to find out the contradictions and gaps in the methodological support of the educational environment, related to the specifics of distance learning with Moodle tools, a SWOT-analysis was used, in which both students of master's degree level and teachers were involved. Using the methods of theoretical analysis and synthesis of scientific and pedagogical research, modern approaches to the formation of an information educational environment have been developed, in particular from the point of view of educational design, and there has been found out such an approach to design which is called "Backward Design" or "Understanding by Design". On the basis of the framing approach of "Backward Design", reference points are proposed for the development of methodical training support for the design of a holistic educational environment by future educators (determination of learning goals based on a person-centered approach; design of measurement of the goal as a planned result; planning of interactive experience of educational activities). The specificity of the methodological support for the design of a modern information educational environment is manifested in the fact that the traditional methods of preparing educational materials by the teacher are ineffective because they are based on the content of the textbook or curriculum, but not on the context which is built on the activity of those who study. This is especially relevant in the conditions of distance education. From the point of view of "Understanding by Design", the educator develops a learning system that is effective and appropriate for the participants. It is assumed that the creation of educational content (learning content) within the limits of the whole subject or its separate part from the point of view of the taxonomy of understanding will allow personalizing the educational process to ensure deep knowledge upon completion. The development of the content of training courses built on the principles of Backward Design can give the educator new opportunities to enhance perceptivity to learning.

References

Boichuk, V.M., Horbatiuk, R.M., Kucher, S.L. Methods of using information and communication technologies in preparing future craft and technology teachers for project activities. *Information Technologies and Learning Tools,* 2019, vol 71, no. 3, pp. 137–153. doi: 10.33407/itlt.v71i3

Bowen, R.S. (2017). Understanding by Design. Vanderbilt University *Center for Teaching*. Available at: https://cft.vanderbilt.edu/understanding-by-design/ (Accessed 29 September 2022).

Boyle, T. Towards a Theoretical Base for Educational Multimedia Design. *Journal of Interactive Multimedia in Education*, 2002, no. 2. Available at: www-jime.open.ac.uk/2002/2 (Accessed 29 September 2022).

Briggs, L.J. (1977). Instructional Design: Principles and Applications. Englewood Cliffs. NJ, Educational Technology Publ, 189 p.

Buynytska, O.P. The use of educational-methodical complexes in the training process of students. *Information Technologies and Learning Tools,* 2011, vol. 25, no. 5. Available at: https://www.journal.iitta.gov.ua/index.php/itlt/issue/view/46 (Accessed 29 September 2022). (In Ukrainian).

Bykov, V.Yu. (2009). *Modeli orhanizatsiinykh system vidkrytoi osvity* [Models of organizational systems of open education]*:* monograph. Kyiv, Atika Publ., 684 p. (In Ukrainian).

Chirva, E.Ch. Pedagogical design as strategy of the formation of the professional culture of designer. *Bulletin of Kharkiv State Academy of Design and Arts*, 2013, no. 3, pp. 51–53. (In Ukrainian).

Glazova, V.V. (2020). Pedagogical design as a necessary condition for an effective distance course. *Tekhnolohii elektronnoho navchannia* [Electronic learning technologies]. Available at: https://texel.ddpu.edu.ua/index.php/TeXEL/article/view/10 (Accessed 29 September 2022). (In Ukrainian).

Kharchenko, I., Shyshenko, I. Information and educational environment of higher education institution as a basis for the formation of information and digital culture of future professionals. *Human studies. Series „Pedagogy",* 2021, no. 13 (45), pp. 78–84, doi: 10.24919/2413-2039.13/45.11 (In Ukrainian).

Kontseptsiia tsyfrovoi transformatsii osvity i nauky: MON zaproshue do hromadskoho obhovorennia (25 travnya 2021 roku) [Concept of digital transformation of education and science: MES invites public discussion. May 25, 2021]. Available at: https://mon.gov.ua/ua/news/koncepciya-cifrovoyi-transformaciyi-osviti-i-nauki-mon-zaproshuye-do-gromadskogo-obgovorennya (Accessed 29 September 2022). (In Ukrainian).

Kucher, S.L. *Metodychne zabezpechenna navchanna proiektuvanniu informatsiinoho osvitnoho seredovyshcha u protsesi profesiinoi pidhotovky vykladacha* [Methodological support of training in the design of an information educational environment in the teacher's professional training process]. *Pedahohika suchasnosti: vyklyky i perspektyvy tsyfrovoi doby* [Modern pedagogy: challenges and prospects of the digital age], 2022, vol. 1, pp. 65–67 (In Ukrainian).

Mazuga, O. (2021). *Osvita staie ihrofikovanoiu. Yak ihrovym ta EdTech biznesam obiednatysia ta zarobyty* [Education is becoming gamified. How game and EdTech businesses can unite and earn]. *EdTech Forbes Ukraine.* Available at: https://forbes.ua/tags/edtech (Accessed 29 September 2022). (In Ukrainian).

McDonald, J.K., West, R.E. Design for learning: Principles, processes, and praxis. *Faculty Publications,* 2021, A. 5213. Available at: https://scholarsarchive.byu.edu/facpub/5213 (Accessed 29 September 2022).

Merrill, M. D., Drake, L., Lacy, M. J., Pratt, J. Reclaiming instructional design. *Educational Technology*, *1996, vol. 36(5), pp. 5–7.*

Mokroguz, O.P. *Pedahohichnyi dyzain u konteksti zastosuvannia multymediinoi prezentatsii* [Pedagogical design in the context of using multimedia presentation]. *Naukovi zapysky Nizhynskoho derzhavnoho universytetu im. Mykoly Hoholya. Seriia: Psykholoho-pedahohichni nauky* [Scientific notes Mykola Gogol Nizhyn State University. Seria: Psychological and pedagogical sciences], 2012, no. 2, pp. 103–105. Available at: http://nbuv.gov.ua/UJRN/Nzspp_2012_2_28 (Accessed 29 September 2022). (In Ukrainian).

On education: Law of Ukraine dated September 5, 2017 with changes of 2022. Available at: https://zakon.rada.gov.ua/laws/show/2145-19#Text (Accessed 29 September 2022). (In Ukrainian).

On higher education: Law of Ukraine dated December 28, 2014, as amended in 2022. Available at: https://zakon.rada.gov.ua/laws/show/1556-18#Text (Accessed 29 September 2022). (In Ukrainian).

Orhanizatsiino-pedahohichni zasady proektuvannia osvitnoho seredovyshcha himnazii (2019-2021). Zakliuchnyi zvit pro naukove doslidzhennia Instytutu pedahohiky Natsionalnoi Akademii pedahohichnykh nauk Ukrainy [Organizational and pedagogical bases of designing the educational environment of the gymnasium (2019–2021). Final report of the scientific research of the Institute of Pedagogy of the National Academy of Sciences of Ukraine]. Available at: https://undip.org.ua/wp-content/uploads/2022/01/3_zakliuchnyy-zvit_innovatsiy.pdf (Accessed 29 September 2022). (In Ukrainian).

Pasichnyk, V.V., Shestakevych, T.V. *Informatsiino-tekhnolohichnyi suprovid osobystisno-oriientovanoho navchannia yak dominantna osvitnia tendentsiia* [Information technology support of person-oriented learning as a dominant educational trend]. *Visnyk Natsionalnoho*

universytetu «Lvivska politekhnika». Seriya: Informatsiini systemy ta merezhi [Bulletin of Lviv Polytechnic National University. Series: Information systems and networks], 2015, no. 829, pp. 215–227. Available at: http://nbuv.gov.ua/UJRN/VNULPICM_2015_829_17 (Accessed 29 September 2022). (In Ukrainian).

Ponomarenko, V.S., Pushkar, O.I., Andryushchenko, T.Yu. (2017). *Pedahohichnyi dyzain zasobiv elektronnoho navchannia na robochomu mistsi* [Pedagogical design of electronic learning tools at the workplace]*: monograph. Kharkiv, Simon Kuznets Kharkiv National University of Economics Publ., 263 p. (In Ukrainian).

Prygodii, M.A., Gumenniy, O.D., Zuyeva, A.B. (2019). *Metodychni rekomendatsii z rozroblennia SMART-kompleksiv dlia profesiinoi pidhotovky kvalifikovanykh robitnykiv ahrarnoi haluzi* [Methodical recommendations for the development of SMART-complexes for professional training of qualified workers in the agricultural industry]. Zhytomyr, Polyssia Publ., 58 p. (In Ukrainian).

Sapozhnykov, S., Samodryn, A., Teplytska, A. Fundamentalisation of education in its projectivity – a transspective from the microworld to the macroworld. *Bulletin of Alfred Nobel University. Series "Pedagogy and Psychology"*, 2022, no. 1 (23), pp. 13–21. doi: 10.32342/2522-4115-2022-1-23-2

Stoyka, O. The digitalization of teacher professional training in the Republic of Poland, Hungary and Ukraine: the formulation of the problem. *Continuous professional education: theory and practice. Series: Pedagogical sciences*. 2021, no. 4 (69), pp. 86–93. (In Ukrainian).

Tryfonova, O.M. Features of creating an educational environment based on self-organization and integration of natural sciences, digital transformation and computer technology. *Scientific Bulletin of Uzhhorod University. Series: "Pedagogy. Social work"*, 2021, no. 1 (48), pp. 410–413. doi: 10.24144/2524-0609.2021.48.410-413 (In Ukrainian).

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