## THE ISSUE OF TRAINING PROFESSIONALLY DIRECTED PRODUCTS DESIGN

Lidiia V. Slipchyshyn, Doctor of Sciences (Pedagogy), Associate Professor of the Theory and Methodology of Technological Education, Drawings and Computer Graphics Department of National Pedagogical Dragomanov University.

E-mail: lida.slipchyshyn@gmail.com ORCID 0000-0001-9159-9458 DOI: 10.32342/2522-4115-2020-1-19-33

Key words: production technology, shaping, technical and technological culture, product design, professional environment, future worker, technical profession, professional (vocational) education.

The article is devoted to the issues of training of professionally directed product design in professional (vocational) education institutions. The influence of modern production technological capabilities on the requirements to the technical and technological culture of workers is analyzed. It is shown that transformations in production explain three concepts of the phenomenon of technology, which differ in the degree of their autonomy.

Technological capabilities of modern production changes the traditional view of production. Attention is drawn to the fact that, in many industries, workers are involved in manufacturing processes which use additive technologies. Thanks to innovations, the production is characterized by the transition to low-stage processes, reduction of production waste, flexibility, increase of resource saving and degree of automation, shortening product life cycle. One of the consequences of innovations is the change in approaches to product design. It becomes technological, which actualizes interest to the connection of the technical and technological sides of production with the principles of molding, to the processes of designing, prototyping and layout. A new challenge for industrial design is the awareness of the aesthetic possibilities of modern technologies.

It is proved that the work of workers in the professional environment in terms of updating the range and nomenclature of products, requires improvement of their technical and technological culture, understanding of the mechanism of various factors influence on the composition, architecture and exterior of the products with which they works. They must understand the nature and source of the continuous production of a particular type of product. The need to familiarize future workers with the design and creative side of the industry product manufacturing is established. The necessity to fully integrate vocational education into continuous design education with a focus on different professional environments is substantiated. In this context, it is proposed to introduce into the educational process of professional (vocational) education institutions different profiles of the discipline "Product Design", in which the content of professionally oriented technical and technological competence is integrated. The discipline's content focuses on understanding the driving forces of the new products development, shows the combined influence of ergonomic, economic and environmental requirements. Knowledge about the concept of product design, its general characteristics, architecture and directions of improvement allow to approach consciously to the creative component of the profession and the need to reduce production costs. At a higher quality level, the future worker is aware of the role of standardization, unification and minimization of product complexity.

## References

1. Bazilevskii, A.A. (2006). *Tehnolohiia i formoobrazovanie v proektnoi culture dizaina (Vliianie tekhnolohii na morfolohiiu promyshlennyh izdelii). Avtoref. kand. iskusstvovedeniia* [Technology and shaping in the projekt culture of design (Influence of technology on the morphology of industrial products). Abstract of cand. art history diss.]. Moskow, 26 p. (In Russian).

2. Osadchyi, V.V. (2017). Faktory vplyvu na rozvytok dyzainu yak nauky [Factors influencing the development of design as a science]. Visnyk universytetu imeni Alfreda Nobelia. Pedahohika i psykholohiia. Pedahohichni nauky [Alfred Nobel University Bulletin. Pedagogy and Psychology Series. Pedagogical Sciences], no. 1 (13), p. 38-44. (In Ukrainian).

3. Svirko, V.O., Rubtsov, A.L., Boichuk, O.V., Holoborodko, V.M., Antonets, O.P. & Yevsieienko, V.M. (2013). *Dyzainerska diialnist: standarty i roztsinky* [Design activity: standards and prices]. Kyiv, Ukrainskyi NDI dyzainu ta erhonomiky Publ., Kharkivska derzhavna akademiia dyzainu i mystetstv Publ., 232 p. (In Ukrainian).

4. Semeniuk, E. & Melnyk, V. (2017). *Filosofiia suchasnoi nauky i tekhniky* [Philosophy of modern science and technology]. Lviv, LNU imeni Ivana Franka Publ., 364 p. (In Ukrainian).

5. Tymenko, V.P. (2012). Pedahohichna tekhnolohiia "dyzain-osvita" u zahalnoosvitnikh i vyshchykh navchalnykh zakladakh [Pedagogical technology "design-education" in general and higher education institutions]. Zbirnyk naukovykh prats Umanskoho derzhavnoho pedahohich-noho universytetu imeni Pavla Tychyny [Collection of scientific works of the Uman State Ped-agogical University named after Pavel Tychyna]. Uman, O.O. Zhovtyi Publ., vol. 2, pp. 292-299. (In Ukrainian).

6. Tiahur, V.M. (2007). *Vykladannia dyzainu v pedahohichnykh navchalnykh zakladakh* [Teaching design in pedagogical schools]. *Visnyk Zhytomyrskoho derzhavnoho universytetu imeni Ivana Franka* [Bulletin of Zhytomyr Ivan Franko State University], no. 31, pp. 89-92. (In Ukrainian).

7. Forsait 2018: Analiz pidhotovky i perepidhotovky fakhivtsiv pryrodnychoho i tekhnichnoho spriamuvannia, vykhodiachy z tsilei staloho sotsialno-ekonomichnoho rozvytku Ukrainy do 2025 roku [Foresight 2018: Analysis of training and retraining of natural and technical specialists, based on the goals of sustainable socio-economic development of Ukraine until 2025]. Kyiv, NTUU "KPI imeni Ihoria Sikorskoho" Publ., Politekhnika Publ., 32 p. (In Ukrainian).

8. Fursa, O.O. (2014). *Tendetsii rozvytku dyzain-osvity v Ukraini (druha polovyna XX – po-chatok XXI stolittia). Avtoref. dys. d-ra ped. nauk* [Trends in the development of design education in Ukraine (second half of XX – beginning of XXI century). Avtoref. dys. doc. ped. sci. diss]. Zhytomyr, 40 p. (In Ukrainian).

9. Mouzakitis, G.S. (2010). The role of vocational education and training curricula in economic development. Procedia Social and Behavioral Sciences, issue 2, pp. 3914-3920. Doi: 10.1016/j.sbspro.2010.03.616.

10. United Nations Educational, Scientific and Cultural Organization (2002). Technical and Vocational Education and Training for the Twenty-first Century: UNESCO and ILO Recommendations. 63 p. Avialable at: http://hdl.voced.edu.au/10707/106727 (Accessed 17 April 2020).

Одержано 19.12.2019.