International Journal of Pedagogics

VOLUME Vol.05 Issue05 2025
PAGE NO. 269-273
DOI 10.37547/ijp/Volume05Issue05-67

Trajectory of Development of Design Competencies in Students Through the Educational Platform “Innoweb-Quest”

Davronova Muxayyo Usubjonovna
Senior lecturer, Namangan State Technical University, Uzbekistan

Received: 28 March 2025; **Accepted:** 24 April 2025; **Published:** 26 May 2025

Abstract: This article deals with the use of the InnoWeb-quest educational platform, which includes tools for implementing knowledge sources and searching for cognitive results, which are independent educational work of students without the direct help of a teacher, as well as using the Internet to maximize the integration of the Internet into various academic subjects at various levels of the educational process in preparation for specialists with intellectual potential and project competence in technical universities.

Keywords: Distance education, active project, independent work, web quests, cognitive activity, integration, information resources.

Introduction: Under the chairmanship of President Shavkat Mirziyoyev of the Republic of Uzbekistan, on June 20, 2024, at a video session on “issues of training of personnel in engineering fields and further improvement of the activities of higher education institutions”, as well as in the implementation of tasks set out in other major-legal documents related to this activity, the design of intellectual potential in Cooperation between technical higher education institutions and production enterprises of Uzbekistan has reached new heights every year. [1]

Technical Higher Education students should not only have professional knowledge and qualifications in their field, but also have professional qualifications in project activities, that is, be able to apply knowledge, skills, qualifications and design methods in solving problems that arise in their professional activities. The attitude towards them is largely determined by the nature of their practical work, in which students must model in a certain way in their professional activities. Scientific and technological progress requires the development of effective means of organizing independent educational activities. Issues of formation, development and diagnosis of professional competence in future specialists scientists of the Republic Q.M.Abdullayeva, N.A.Muslimov, Sh.S.Sharipov,M.B.Urazova,O.A.Quysinov etal.Ainforeign countries.A.Verbitsky, N.A.Grishina, E.F.Zeyer, I.A.Zimnyaya, A.I.Kuleshova, Ya.A.Komensky, A.K.Markova, V.A.Skakun, A.V.Khutorsky, R.Boyasis, K.Cameron, A.V.Keyler, W.Krisco, G.Mescon, M. Dj. Raven, S.Ouiddet, S. Researched by Holliford. Today, distance learning optimization remains one of the urgent tasks.

One of the mayors of European universities is the attitude to the student's basic education not only in the auditorium, not in lectures and seminars, but also in the process of independent work, studying the recommended literature and writing essays, abstracts, coursework, etc. As one of the forms of distance learning technologies and as a result of our research, the educational platform “InnoWeb-quest” was developed to organize independent work of students. Independent educational work of students is a type of activity that involves the search for sources of knowledge, means of implementation and the results of cognitive activity, carried out without the direct help of a teacher. "InnoWeb-quest" technology-search for information on the internet on a given topic. Education "Inno-Web-quest" is an internet site where students work while performing a specific educational function. A distinctive feature of “InnoWeb-quest” technology in education is that some or all of the information for independent or group performance of students is located on different websites. [2]

In pedagogy, Web query is a problematic task with role-

playing elements that use the information resources of the internet. It will be a mini-project based on information search on the internet. "InnoWeb-quest" technology can be structured by a teacher or student, depending on the goals set before the student. There are many reasons to use the "InnoWeb-quest"technology in the learning process, let's list some of them. This is an easy way to integrate the internet into the learning process, without requiring special technical knowledge. The quest can be performed individually, but group work is preferable when solving the"InnoWeb-quest" technology. At the same time, two educational goals are achieved – communication and information exchange means. The "InnoWeb-quest" technology develops critical thinking, as well as the ability to compare, analyze, classify and abstract thinking. The motivation of students increases, which leads to an increase in academic efficiency

The use of" InnoWeb-quest " technology has great advantages.

1. This contributes to the successful socialization of graduates by creating an adequate information environment in which students learn to act independently.[3]

2. The relevance of research topics, the ability to acquaint a wide audience with the results of their research in a lively, visual way, makes it possible to organize the educational process that supports an activity-based approach at all its stages.

3.Students master research technology, which includes the following steps:tadqiqot muammosini aniqlash;

- setting goals and objectives;
- formulation of research hypotheses;
- determination of data collection and processing methods;
- search for more information;
- analysis of new facts;
- generalization;
- registration of research results;
- discussion and translation of the results obtained in the moment.

When choosing a research problem and solving a specific problem within a group, Students are motivated by their interests and level of preparation:

- Reaching consensus is developing a solution to an acute problem
- Evaluation-justification of a certain point of view.
- Journalistic investigation - objective presentation of information (separation of opinions and facts).
- Persuasion is the persuasion of opponents or neutral-minded individuals to their side
- Scientific research-study of various phenomena, discoveries, facts based on unique online resources.

The Web quest includes the following steps:

Introduction in the first stage (justification of the topic and the value of the project). This stage provides basic information, introduces basic concepts, and also includes a question that students reflect;

In the second stage, the Task (Purpose, conditions, problem, tasks and ways to solve it). This is the most important part of the web quest. The task directs students to a number of specific actions to solve the problem;

Process at the end of the process (step-by-step description of the course of work, distribution of roles, obligations of each participant, links to Internet resources, final product). This section contains instructions on how students perform the task (procedure for filling out and sorting information);

Fourth stage Assessment (self-assessment scale and teacher assessment criteria). The department has criteria for evaluating the completed task in accordance with certain standards;

In the fifth stage, the conclusion (generalization of results, generalization of results (what you learned, what skills you acquired; rhetorical questions or questions that encourage further study of the topic are possible). It summarizes and encourages reflection of the problem and further research;

In the sixth stage, teacher pages (optional): they contain information to help other teachers who use a web quest. Stages of work in a Web quest include:

Preliminary round (team). Students get acquainted with the basic concepts of the chosen topic, materials of similar projects. The roles in the team are distributed: 1 out of 4 people per 1 role. All members of the team must help each other and teach each other to work with computer programs.

Role stage. Individual teamwork for the overall result. Participants simultaneously perform tasks according to their chosen roles. Since the purpose of the work is not competitive, in the process of working on a web quest, team members are mutually trained in the skills of working with computer programs and the Internet. The team summarizes the results of each task together, and participants exchange materials to achieve a common goal - to create a website.

Functions of this stage:

- search for information on a specific topic;

- site structure development;

- creating materials for the site;

- review of materials for the site.

Final stage. The team works together under the guidance of a teacher and feels responsible for the results of the research published on the Internet.

CONCLUSION

Conclusions and proposals are formed on the basis of the results of the study of the problem. A competition of completed works is held, in which the understanding of the task, the reliability of the information used, its relationship to the given topic, critical analysis, logic, data structure, accuracy of positions, problem-solving approaches, individuality, professionalism of the presentation are evaluated. [4]

The platform highlights the possibility of enterprise workers also acquiring theoretical knowledge in their specialties through the on the job Training (OJT – on-the-job training) method. It is a method that provides practical assistance in future engineers to acquire new skills and skills necessary for their professional activities in a work environment that is more real or closer to reality. It is often introduced in work practice or used to learn how to use specific tools or equipment in a training environment. Often this method helps students consolidate theoretical knowledge through practical skills. This in turn allows students to study their work while studying as well as develop design competencies.

In the course of the research, a platform was created on the topic “INNOWEB quest”. It consists of functions on the platform fold (Figure 1). A set of theoretical data on a theoretical topic (definitions, supporting concepts, rules, laws, principles, criteria, etc.). A professor of higher education can contact and use the rest of the Department's materials while illuminating this theoretical information while explaining the topic. Practical-the circumstances of the topic being applied to practice, as well as individual assignments for each topic, practical training and methodological instructions for their implementation are given. In this section, too, it is possible to use the materials of the theoretical, reference, stand, internet, test section, contact them.

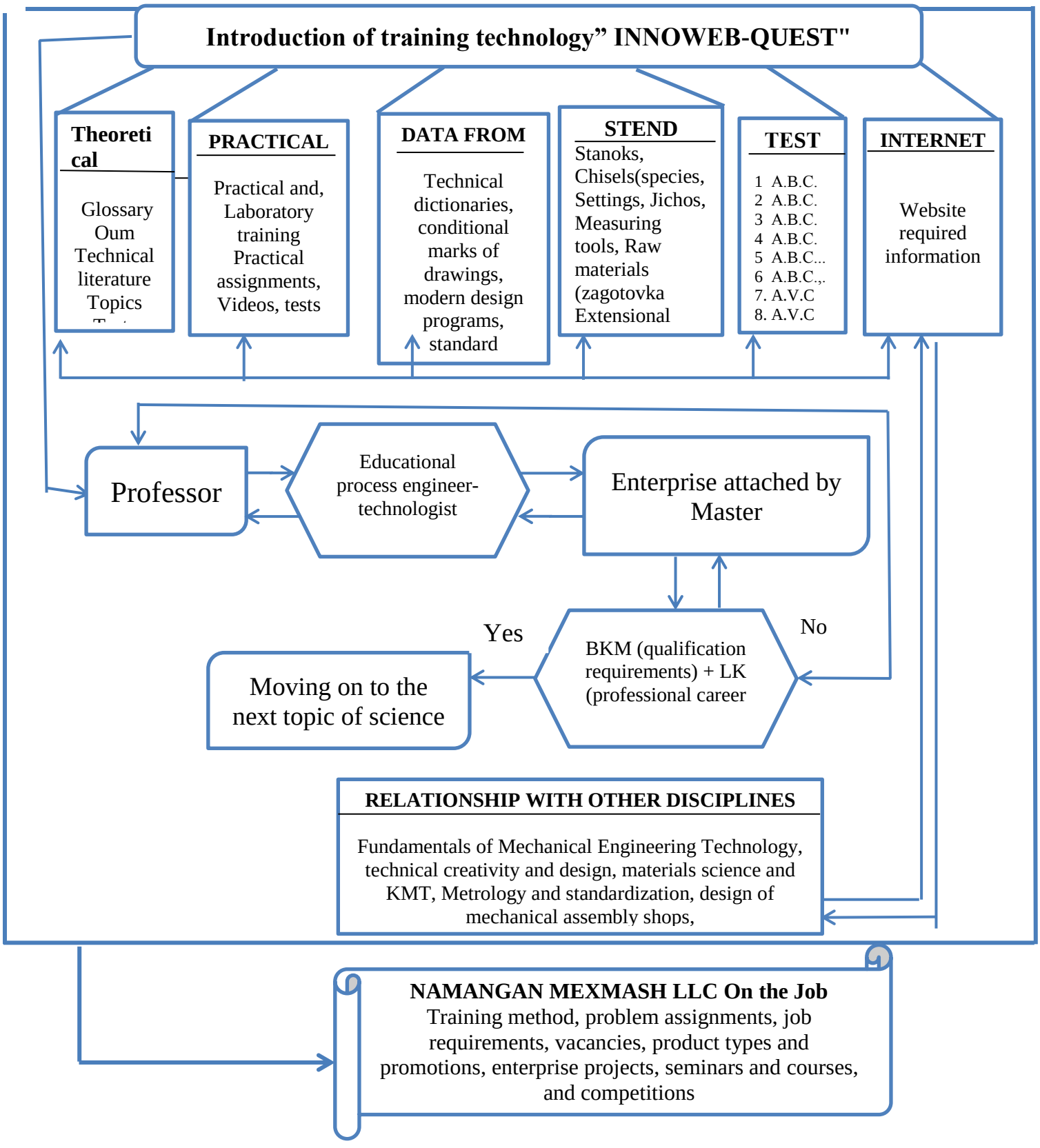

Figure 1. Trajectory of development of design competencies in students through the INNOWEB-QUEST platform

On this platform, modern programs of subject tutorials,practical and independent assignments, tests on the topic, methodological manuals for performing practical and laboratory work, literature on use, constructive drawings, videos, Compass-3D, AutoCAD, SOLIDVORKIS are available in detailed design. Stand-includes visual information on the topic, machine tools, cutters, devices and equipment (test tasks for performing workflows on machines, methods for processing workpieces, samples).

The Test includes a set of questions and a performance indicator to control students ' mastery of the subject. At the end of the test, the student shows the subjects of the test question that he could not answer.Having mastered the topic again, the test solves again. In this programming system, the student can rethink and independently study topics that he cannot master. The test is carried out after each topic or at the end of the chapter. The introduction of a software system for the formation of professional skills based on a competency-based approach to the educational process made it possible to achieve effective results.

REFERENCES

O‘zbekiston Respublikasi Prezident Shavkat Mirziyoev raisligida 2024yil 20-iyun kuni “Muhandislik sohalarida kadrlar tayyorlash va oliy ta’lim muassasalari faoliyatini yanada takomillashtirish masalalari” yuzasidan videoselektor yig‘ilishi.

M.U.Usubjonovna. Bo‘lajak mutaxassislani loyihalash kompetentsiyalarini rivojlantirish metodikasi МУҒАЛЛИМ ҲӘМ УЗЛИКСИЗ БИЛИМЛЕНДИР Илимий-методикалық jurnali Нөкис 2024 2/1-сан, 178-185bet, ISSN 2181-7138

Usubjanovna, D. M., & Sharifjanovna, Q. M. (2023). The effectiveness of using morphological study method in teaching specialized subjects. international journal of research in commerce, it, engineering and social sciences ISSN: 2349-7793 Impact Factor: 6.876, 17(01), 22-27.

Usubjanovna, D. M. (2022). ASPECTS OF METHODS AND FORMS OF TEACHING TECHNICAL SUBJECTS. Galaxy International Interdisciplinary Research Journal, 10(2), 743-747.

Нажмиддинова, Ё., Абдуллаева, Н., & Давронова, М. (2016). Перспективы адаптации выпускников профессиональных колледжей на производственных предприятиях. European research, (3 (14)), 71-75.

Usubjanova, D. M. Methods of Development of Design Competents in Future Specialists. International Journal on Economics, Finance and Sustainable Development, 3(3), 331-335.

Davronova M.U.“Texnik ijodkorlik va dizayn” O‘quv qo‘llanma. (Oliy ta’lim, fan va innovatsiyalar vazirligining 07.05.2024 yildagi №149 sonli buyrug’i, № 344188 Guvohnoma) 225 bet.