

*The result of investigation was an assumption, that it is very important to maintain balance between world cultural heritage and Ukrainian national culture with the aim of avoidance of cultural imperative. It has been proved, that pedagogical communication is a professional one of a teacher with students that has certain pedagogical functions and is directed at creation of favorable psychological climate, and therefore psychological optimization of educational activity.*

*In the process of investigation, the author concluded that cultural approach helps to develop communicative skills of a foreign student as a main in studying of Ukrainian language as foreign one, expand perception of the world through perception of another culture, help to adapt in foreign environment and adjust to new cultural-educational conditions and finally popularize Ukrainian language and culture in the world. Studies of configurations of combination of cultural approach with other approaches to studying Ukrainian language as foreign one can be prospects of further research, as well as creation of peculiar canon of representatives of Ukraine in the world, investigation of paralinguistic peculiarities of communication of different ethnic groups.*

**Key words:** *cultural approach, intercultural communication, cultural integration, communicative skills, communicative personality, lingual activity, communicative barrier.*

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## **PERSONAL LEARNING SYSTEMS AS A MEANS OF STUDENT-CENTERED LEARNING**

*The aim of the article is to analyze the prospects for the use of personal learning systems in the higher education institution as a means of implementing student-centered learning based on the formation of an individual learning trajectory. Implementation is considered on the basis of experience in the application of Personal Learning Systems at Simon Kuznets Kharkiv National University of Economics. The peculiarities and composition of such systems are analyzed in order to implement student-centered learning.*

**Key words:** *personal learning system, student-centered learning, learning trajectory, higher education institution.*

**Introduction.** With development of the information society and dissemination of learning using information and communication technologies – e-learning, there is a need to ensure the quality of higher education in the e-learning format. After all, ensuring the quality of higher education is a prerequisite for the educational activities of higher education institutions, in particular in the format of e-learning within the framework of educational programs. Under the legislation of Ukraine in the field of higher education, the national quality assurance system is based on the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG).

In ESG, one of the leading standards is student-centered learning, teaching and assessment (section 1.3): “Institutions should ensure that programs are implemented in such a way as to encourage the students to play an active role in the educational process and that student assessment reflects this approach” (Kalashnikova, 2015, p. 74).

Today, in the system of higher education there is a tendency to increase personalization of learning in contrast to the use of a typical curriculum for all students. Such a transition can become an important aspect of formal learning. Personalization can be achieved by adapting learning trajectory in modern e-learning systems, which is one of the main aspects of student-centered learning in higher education institutions (Ponomarenko, 2013, p. 140).

**Analysis of relevant research.** Problems of implementation of electronic forms of learning are revealed in the works of such domestic and foreign scholars as Yu. K. Babanskyi, V. P. Bespalko, D. A. Danylov, V. S. Ponomarenko (Babanskyi, 1985; Bespalko, 1989; Ponomarenko, 2013). The possibilities of using the Moodle system are analyzed in the works of V. P. Serhienko, V. M. Franchuk, L. O. Kukhar, A. V. Halytskyi, P. V. Mykytenko, V. P. Stepanov, Ye. V. Ponomarenko, S. H. Shylo (Serhienko, 2014; Stepanov, 2012; Shylo, 2011). However, the analysis of the works of these researchers has proved that the issue of formation of an individual trajectory in e-learning has not been considered in the scientific literature.

The learning trajectory is defined as a sequence of educational tasks or activities designed to assist the student in improving his knowledge or skills in a discipline (Vdovina, 2013). The purpose of this trajectory is to provide students with the most suitable individual educational facility, according to the student's capabilities (Chi, 2014, p. 547).

**The aim of the article** is to analyze the prospects for the use of personal learning systems in the higher education institution as a means of implementing student-centered learning based on formation of an individual learning trajectory.

**Research methods.** In the process of research, the following methods have been used: system analysis – to represent the object of research and its components, tasks and research tools; methods of synthesis and analysis – for decomposition and construction of systemic connections between investigated entities.

The information base of research constituted annual and quarterly data on the state of the forestry sector of the State Statistics Committee of the Kharkiv region; annual, quarterly and monthly data on the financial condition of enterprises in this sector.

**Research results.** One of the most commonly used software tools in the world for creation of e-learning environment is the Moodle network environment (an acronym from the Modular Object-Oriented Dynamic Learning

Environment). The Moodle Learning Platform is a free, open learning management system designed to create a personalized learning environment. It implements the philosophy of “pedagogy of social constructivism” (Yatsenko, 2017, p. 133) and focuses on organizing interaction between the teacher and students and organizing traditional distance courses, as well as supporting lifelong learning that corresponds to modern areas of development and implementation of mixed learning principles.

Since 2009, Simon Kuznets Kharkiv National University of Economics has been developing and using personal learning systems (hereinafter referred to as PLS) based on the Moodle platform (<http://pns.hneu.edu.ua>). Personal learning system is an automated learning system with an emphasis on its personal character and focus on independent learning. Personal learning system at Simon Kuznets KhNUE is an information environment which consists of educational, scientific, informational materials and tools developed in electronic form, is sufficient for teaching separate educational disciplines with the help of indirect interaction of remote participants of the educational process and is directed at effective organization of the educational process and management of students' independent work (Ponomarenko, Poliakova, 2013, p. 5).

The purpose of introduction of PLS into the educational process of Simon Kuznets KhNEU is to ensure the quality of education through the content of learning environment, ensuring equal access of participants of the educational process to quality learning and methodological materials, regardless of their place of residence and form of education, creation of conditions for personalization of learning, use of information and communication technologies (Ponomarenko, Poliakova, 2013, p. 6).

The principal differences between PLS and electronic version of the paper textbook or self-contained electronic multimedia publication is the following (Ponomarenko, Poliakova, 2013, p. 8):

- 1) a clear structure of learning and methodological materials;
- 2) a system of interaction between the teacher and the student, among the students, organized with the use of resources of the PLS, throughout the time of learning the discipline;
- 3) a calendar plan for fulfilling the working plan of the discipline by the students;
- 4) a system for monitoring of accomplishment of all the types of educational activities.

The main functions of the PLS, through which the student-centered approach to learning is achieved, are:

- development of informational-learning environment of Simon Kuznets KhNEU, which consists in creating conditions that ensure the quality of self-education of students through the use of a system of electronic courses, tools and resources that facilitate structuring, presentation, preservation and

transfer of educational content; construction of the system of intensive connections between participants of the educational process;

- optimization of the educational process, which involves the use of a complex of electronic courses, tools and resources, which allows to automate formation of teaching and methodological support, to organize, regulate and control independent work of students as a component of the educational process;

- organizational-methodological support of independent work of students, which consists in development of methodological, didactic, instructional materials, their structuring and presentation in such a way that independent work of students becomes purposeful, consistent, managed and gives them the opportunity to form, consolidate, deepen and systematize knowledge and skills, that are received during classes; self-training and self-control of mastering the discipline;

- creation of conditions for personalization and individualization of students' learning, which envisages the possibility for students to build their own learning trajectory taking into account individual characteristics, personal qualities, educational needs and motives, and the level of their aspirations for the results of learning.

With the aim of unification the structure of the personal learning system contains the following units: software unit, content and communication units.

*The software unit* contains software tools used to create PLS and additional software tools that allow developing, editing, hosting content, accessing and sharing information over the Internet, organizing automated learning, control and self-control, interaction of participants of the educational process and current PLS administration.

*The content unit* contains the information necessary for a holistic presentation of the electronic course (for the discipline being studied) and content, i.e. theoretical and practical material, tasks for independent work, methodological recommendations, additional materials, control measures that provide an independent component of mastering curriculum by the student.

The information-organizational component of the PLS content unit contains the following elements:

- description (abstract) of the electronic course;
- working program of the discipline;
- working plan (technological map) of the discipline;
- recommended literature and Internet resources;
- references to electronic products of the department (electronic publications, etc.), corresponding to the content of the discipline;
- topics and methodological recommendations for the implementation of the individual scientific-research tasks, essays, course papers (projects).

Educational-methodological component of the PLS should be organized according to the thematic or weekly plan of learning the discipline. Content of

courses in the PLS system involves use of teaching methods and scientific developments in a text or multimedia format and has the form of electronic resource and corresponds to the work plans of the discipline. Each topic (topic block) includes:

- theoretical material. This component allows to master independently learning material that was considered at the lecture or prepare for the next lectures, in particular problem presentation lectures, lectures-conferences, etc., and contains theoretical material on the topic being studied, in the form of text lectures, electronic multimedia presentations, audio and video collections;

- practical (seminar, laboratory) works performed during classroom sessions. This component allows to study independently learning material that forms skills and competencies, namely: practical, computational, graphical, analytical creative tasks, laboratory works of different levels of complexity. In this component, instructional-methodological materials supplement theoretical, practical, research tasks, laboratory works with indication of competencies acquired, the definition of the purpose, description of tasks, methodological recommendations for their implementation, and, if necessary, with examples of completing, requirements for forms for submitting the results of the performed work and evaluation criteria;

- tasks for independent work. This component is based on the working plan of the discipline, namely: subjects, content, types, forms and volumes of tasks. In the formulation of theoretical, practical and research tasks are given: text of the task, requirements for the design, criteria for evaluation and deadline for implementation. Tasks can be differentiated according to the level of complexity, subjects, requirements to the volume, which ensures individualization of student learning. Depending on the requirements set by the teacher, the results of the task can be sent to the teacher in electronic form on the site of PLS of Simon Kuznets KhNEU, and submitted in paper form or orally.

These components can be provided with author's developments in order to enhance the learning process.

The control component of the PLS content unit provides definition of the current learning outcomes by the teacher and self-control of the student's learning quality. It may include:

- automated tests for control and self-control of students' achievements, provided by the capabilities of the software platform;

- multi-level tasks for checking academic achievements of students on the material being studied;

- banks of control questions and tasks.

*The PLS communication unit* provides interaction of students and teachers, group and intergroup communication on the basis of information and communication technologies, which allows to realize the feedback when using

the theoretical, practical, independent and control components of the electronic course. This unit includes:

- organization of personal remote interaction between the teacher and the student, obtaining the results of tasks and their verification, correction of tasks, commenting on responses and sending explanations, etc.;
- exchange of messages and comments for individual communications between a teacher and a student;
- use of synchronous communication tools for distance counseling and discussion in real time;
- possibility to create a repository of practical tasks for educational disciplines;
- organization of joint work of students on tasks (projects) in the discipline;
- conducting on-line consultations for students on problematic issues;
- use of webinars with participation of teachers and invited specialists.

In order to ensure gradually the quality of e-learning according to the level of development, the personal learning system can be of content, interactive and autonomous level, as shown in Fig. 1 (Yatsenko, 2017, p. 134).

We'll consider the proposed levels of personal learning systems by their composition and functionality.

*The content level* of PLS contains necessary information-methodological support for the discipline using electronic tools that provide students with access to electronic educational resources. The PLS of content level is sufficient for mastering a discipline based on a mixed learning model, in which distance learning technologies are used for full-time and part-time students (distance learning).

*The interactive level* of PLS has additional teaching and methodological support that uses multimedia electronic means of initial and intermediate interactivity, control of success and self-testing of knowledge through electronic testing tools, implementation of communications (web-based seminars using chats, forums, electronic individual consultations), verification and correction of completed tasks with the use of electronic resources and resources in the mode of off-line and on-line. PLS of interactive level provides feedback for students to control the progress of mastering the discipline.

*The autonomous level* of PLS involves competence approach (Ponomarenko, 2012, p. 13) to teaching and methodological support, a high level of interactivity, use of software applications for creating and conducting audio and video collections, webinars in real time on-line, additional author's developments for activating the learning process (self-assessment and mutual evaluation, case studies, portfolio, business games, training on interdisciplinary basis, etc.), implementation of communications for organization of joint work on projects with the use of electronic tools and resources. PLS of autonomous level allow to use them as an independent educational resource for full-time

and part-time (distance) forms of training with obligatory secure certification of the final result of mastering the discipline by students.

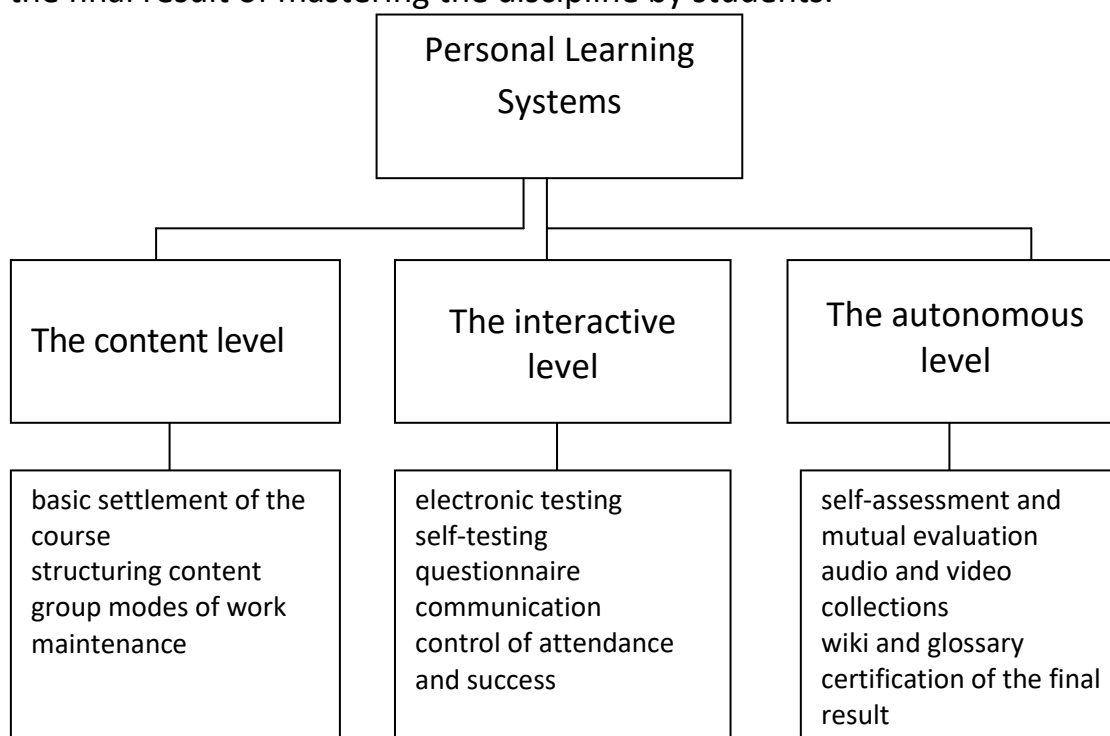


Figure 1. Three-level model of personal learning systems in Simon Kuznets KhNEU

In Simon Kuznets KhNEU, a student with the purpose of forming an individual learning trajectory can choose a certified personal learning system of the autonomous level of development as an educational discipline of the optional component of an educational-professional program. A student has the right to choose a certified PLS as a general-professional discipline according to the direction, a free minor, a component of the minor, a mag-minor. The list of the certified PLS of the autonomous level of development, which is offered for the choice of students, is approved by the training department on the basis of proposals of departments for inclusion in the general university pool of disciplines of the variable component of educational-professional programs.

A student who has selected a certified PLS as an optional component has the right:

- not to attend classes in the corresponding to PLS discipline (if they are available on a curriculum);
- to receive additional full-time or online consultations according to the schedule of consultations of the teacher who is the author of the selected PLS;
- to determine independently the sequence and rate of assimilation of the teaching material of the PLS.

A student who, according to the results of work with an autonomous PLS, received a final score of not less than 60 points out of 100 possible, has the

right to obtain a secure certificate of successful completion of the course in the corresponding academic discipline through the interface of the site of PLS of Simon Kuznets KhNEU. A protected student certificate is the basis for crediting the final result of mastering the discipline by the dean's office.

**Conclusions.** Thus, introduction of a three-level model of personal learning systems in Simon Kuznets KhNEU will allow scientific-pedagogical staff to master gradually the functionality of the Moodle software platform and improve the quality of e-learning, and will allow students to acquire knowledge and competences based on the individualization of learning and effective comprehensive utilization of educational innovative information technologies.

An individual learning trajectory can increase the efficiency of the educational process in online learning systems, but implementation of individual learning paths in real life faces significant difficulties associated with their implementation in teaching activities. Further research will focus on taking into account both the type of each learning task and the expert opinions on determining and assessing the student's learning style in order to implement a student-centered approach to learning.

## REFERENCES

1. Калашнікова, С., Луговий, В. (Ред.) (2015). *Розвиток системи забезпечення якості вищої освіти в Україні: інформаційно-аналітичний огляд*. Київ: ДП «НВЦ «Пріоритети» (Kalashnikova, S., Luhovyi, V. (Ed.) (2015). *Development of the Quality Assurance System for Higher Education in Ukraine: Information and Analytical Review*. Kyiv: SE "Priority Research Center").
2. Вдовина, С. А., Кунгурова, И. М. (2013). Сущность и направления реализации индивидуальной образовательной траектории. *Интернет-журнал «Науковедение», Вып. 6*. Режим доступа: <https://cyberleninka.ru/article/n/suschnost-i-napravleniya-realizatsii-individualnoy-obrazovatelnoy-traektorii>. Дата обращения: Март 22, 2018 (Vdovina, S. A., Kunhurova, I. M. (2013). The essence and directions of realization of the individual educational trajectory. *Internet journal "Science", Issue 6*. Retrieved from: <https://cyberleninka.ru/article/n/suschnost-i-napravleniya-realizatsii-individualnoy-obrazovatelnoy-traektorii>).
3. Яценко, Р. М., Гороховатський, О. В. (2017). Трирівнева модель персональних навчальних систем ХНЕУ ім. С. Кузнеця в програмному середовищі Moodle. *Сучасні проблеми моделювання соціально-економічних систем. Матеріали IX міжнародної науково-практичної Інтернет-конференції 7-8 квітня 2017 р.* Бердянськ: Видавець Ткачук О. В. (Yatsenko, R. M., Horokhovatskii, O. V. (2017). Three-level model of personal learning systems of Simon Kuznets KhNEU in the Moodle software environment. *Modern problems of modeling of socio-economic systems. Materials of the IX International Scientific and Practical Internet Conference, April 7-8, 2017*. Berdiansk: Publisher Tkachuk O. V.).
4. Бабанский, Ю. К. (1985). *Методы обучения в современной общеобразовательной школе*. М.: Просвещение (Babansky, Yu. K. (1985). *Methods of teaching in a modern general education school*. М.: Enlightenment).
5. Беспалько, В. П. (1989). *Слагаемые педагогической технологии*. М.: Педагогика (Bespalko, V. P. (1989). *Components of pedagogical technology*. М.: Pedagogy).
6. Данилов, Д. А., Товарищева, Ф. Д., Николаев, А. М. *Педагогические технологии*. Режим доступа: <http://www.y-su.ru/institut/pedinst/tecnology/>



files/obychenye.html (Danilov, D. A., Tovarishcheva, F. D., Nikolaiev, A. M. *Pedagogical technologies*. Retrieved from: <http://www.ysu.ru/institut/pedinst/tecnology/files/obychenye.html>).

7. Пономаренко, В. С. (2013). Реалізація студентоцентрованого підходу як чинник якості підготовки фахівців у вищому навчальному закладі. *Європейська інтеграція вищої освіти України в контексті Болонського процесу, 3 (додаток 2)*, 140-144 (Ponomarenko, V. S. (2013). Implementation of the student-centered approach as a factor in the quality of preparation of specialties in higher education institutions. *European Integration of Ukraine's Higher Education in the Context of the Bologna Process, 3 (annex 2)*, 140-144).

8. Сергієнко, В. П., Франчук, В. М., Кухар, Л. О., Галицький, О. В., Микитенко, П. В. (Ред.) (2014). *Методичні рекомендації зі створення тестових завдань та тестів у системі управління навчальними матеріалами MOODLE 2.5.x*. К.: НПУ імені М. П. Драгоманова (Serhiienko, V. P., Franchuk, V. M., Kukhar, L. O., Halytskyi, O. V., Mykytenko, P. V. (Ed.) (2014). *Methodological recommendations for the creation of test tasks and tests in the educational materials management system MOODLE 2.5.h*. К.: Н. П. Драгоманов НР).

9. Степанов, В. П., Пономаренко, Е. В. (2012). *Методическое руководство для преподавателя СДО «Moodle»*. Х.: ИД «Инжек» (Stepanov, V. P., Ponomarenko, Ye. V. (2012). *Methodological guide for the teacher of Moodle SDO*. Kh.: ID "Inzhek").

10. Шило, С. Г. (Ред.) (2011). *Методичні рекомендації щодо освоєння та використання системи дистанційного навчання Moodle XHEU для студентів усіх галузей знань заочної форми навчання*. Харків: Вид. XHEU (Shylo, S. H. (Ed.) (2011). *Methodological recommendations for the development and use of the Moodle KhNEU distance learning system for students of all branches of knowledge of correspondence forms of study*. Kharkiv: Publishing house of KhNEU).

11. Пономаренко, В. С., Полякова, Г. А., Малець, І. В., Білоконенко, Г. В., Анохін, В. М. (Ред.) (2013). *Положення «Про персональну навчальну систему як складову управління самостійною роботою студентів XHEU»*. Харків: Вид. XHEU (Ponomarenko, V. S., Poliakova, H. A., Malets, I. V., Bilokonenko, H. V., Anokhin, V. M. (Ed.) (2013). *Regulations on the personal learning system as a part of management of the independent work of students of KhNUE*. Kharkiv: Publishing house of KhNEU).

12. Пономаренко, В. С. (2012). *Проблеми підготовки компетентних економістів та менеджерів в Україні*. Харків: ІНЖЕК (Ponomarenko, V. S. (2012). *Problems of training of competent economists and managers in Ukraine*. Kharkiv: INZHEK).

13. Chi, Y.-L., Chen, T.-Y., Tsai, W.-T. (2014). Creating Individualized Learning Paths for Self-regulated Online Learners: An Ontology-Driven Approach. *Cross-Cultural Design, Vol. 8528*, 546-555.

14. Reiser, R. A. (1987). Instructional Technology: A History. In R. M. Gagné (Ed.), *Instructional Technology: Foundations*, (pp. 11-40). Hillsdale, NJ: Lawrence Erlbaum Associates.

15. Garrido, A., Onaindia, E. (2013). Assembling Learning Objects for Personalized Learning: An AI Planning Perspective. *Intelligent Systems, IEEE, Vol. 28*, 64-73.

16. Allen, W. C. (2006). Overview and evolution of the ADDIE training system. *Advances in Developing Human Resources, 8 (4)*, 430-441.

## РЕЗЮМЕ

**Яценко Роман.** Персональные обучающие системы как средство реализации студентоцентрированного обучения.

Целью статьи является анализ перспектив применения персональных обучающих систем в заведении высшего образования как средства реализации студентоцентрированного обучения на основе формирования индивидуальной

*траектории обучения. Реализацию рассмотрено на основе опыта по применению персональных обучающих систем в Харьковском национальном экономическом университете имени Семена Кузнеця. Проанализированы особенности и состав таких систем с целью реализации студентоцентрированного обучения.*

**Ключевые слова:** *персональная обучающая система, студентоцентрированное обучение, траектория обучения, заведение высшего образования.*

## АНОТАЦІЯ

**Яценко Роман.** *Персональні навчальні системи як засіб реалізації студентоцентрованого навчання.*

*Метою статті є аналіз перспектив застосування персональних навчальних систем у закладі вищої освіти як засобу реалізації студентоцентрованого навчання на основі формування індивідуальної траєкторії навчання. У процесі дослідження було використано низку методів: системний аналіз – для подання об'єкта дослідження і його складових, завдань та інструментів дослідження; методи синтезу й аналізу – для декомпозиції та побудови системних зв'язків між досліджуваними сутностями. Інформаційною базою дослідження виступали річні і квартальні дані про стан галузі лісового господарства Державного комітету статистики Харківської області; річні, квартальні й помісячні дані про фінансовий стан підприємств цієї галузі.*

*Реалізацію розглянуто на основі досвіду застосування Персональних навчальних систем у Харківському національному економічному університеті імені Семена Кузнеця. Проаналізовано особливості та склад таких систем з метою реалізації студентоцентрованого навчання.*

*Упровадження трирівневої моделі персональних навчальних систем у ХНЕУ ім. С. Кузнеця дозволить науково-педагогічним працівникам поступово опановувати функціональні можливості програмної платформи Moodle та підвищити якість електронного навчання, а студентам – отримувати знання й компетентності на основі індивідуалізації навчання та ефективного всебічного використання освітніх інноваційних інформаційних технологій.*

*Індивідуальна траєкторія навчання дозволяє підвищити ефективність освітнього процесу в системах онлайн-навчання, однак реалізація індивідуальних навчальних шляхів у реальному житті стикається зі значними труднощами, пов'язаними з їх упровадженням у педагогічну діяльність. У подальших дослідженнях буде зосереджено увагу на врахуванні як типу кожного навчального завдання, так і думок експертів щодо визначення й оцінки стилю навчання студентів з метою реалізації студентоцентрованого підходу до навчання.*

**Ключові слова:** *персональна навчальна система, студентоцентроване навчання, траєкторія навчання, заклад вищої освіти.*