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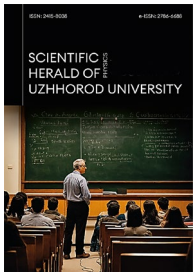

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The use of SMART technologies in the development of transliteracy of future educational psychologists

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Abstract

Relevance. The relevance of the research is conditioned by the fact that in the educational activities of future educational psychologists, it is possible to acquire modern professional competencies in the development of transliteracy using SMART technologies. Intensive penetration of these tools into the educational environment updates the requirements and compliance of students, which leads to the optimisation of the current process. The ability to access high-quality resources increases the role of individual work and self-education, which are aimed at high independence level.

Purpose. The purpose of the study is to highlight the features of the application of information and communication aspects in a specific educational system of the Republic of Kazakhstan, to consider innovative SMART technologies in the development of transliteracy to improve the level of education and qualifications of future educational psychologists so that they can use information, skills, and knowledge effectively.

Methodology. The following methods were used: prognostic, psychological-semantic, system-structural.

Results. The need to improve the quality of education through the use of modern technologies actualises the development of a creative and active personality as a subject of upcoming professional activity. The future educational psychologist needs to be able to rationally solve specific tasks, be competitive in the labour market, continuously improve their competence, transliteracy, and efficiency by using the latest mechanisms. In addition, the task of the teaching staff is the ability to navigate and determine modern prospects for the successful introduction of SMART technologies in the educational process to improve the quality of training of future educational psychologists.

Conclusions. The practical value of the research lies in providing an innovative approach to the educational process with the introduction of SMART technologies for the development of transliteracy of future educational psychologists.

Keywords: SMART technologies; innovations; transliteracy; self-development; future educational psychologists.

Introduction

New scientific discoveries and technologies allow introducing more modern solutions in many areas, including education. Information technologies, within the framework of the current process, fundamentally affect the forms of perception that determine psychological practice. Such changes attract students' attention since conventional teaching methods are no longer effective, so new

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mechanisms have to be introduced. When used correctly, they can carry a number of positive aspects, for example, arouse curiosity, increase motivation to learn or develop responsibility for one's own competence. Multimedia projectors and interactive whiteboards are an example of modern technologies in the education of future educational psychologists. The latter are connected to a computer and a projector. They can display computer files, audio-visual materials, and websites. Interactive whiteboards are an attractive teaching tool, in addition, they allow students to activate and expand their knowledge and skills in a wide range [1]. Furthermore, electronic textbooks, that is, the so-called e-books, are becoming more widespread, and electronic student cards, which are mandatory in institutions, are also gaining traction.

SMART technologies are considered one of the important changes for the educational environment, which carry opportunities and problems. They actively shape the future by acting as intermediaries and producers of knowledge in all their aspects. This is a technological process that turns the previous learning structure upside down, characterising not only access to new technologies but also direct participation in modern society, since the world of learning, recreation, and knowledge is increasingly determined by digital applications, which include the basic usability of data, the possibilities of developing and applying artificial intelligence for future educational psychologists [2]. Innovations that change the structure of education are aimed and focused on future projects that will help make the entire learning system effective for the digital age. Modern tools are used in educational contexts to identify and support successful processes. When formulating SMART purposes, a set of solutions is considered, which help to effectively achieve them. Such transformations allow perceiving and forming professional transliteracy as a special, meaningful, and modernised education policy, where all objects are properly prepared and have constant access to professional teaching tools and pedagogical communities [3].

Social networks also play a role in education, where groups of future teachers are formed and necessary materials are discussed. The e-learning platform, which is a form of learning via a computer and the Internet, allows, for example, completing a qualification training or an appropriate course. Its advantages include the educational process at a convenient pace, easy communication between students, and any duration of use. All innovations have many undeniable advantages, but it is worth considering certain disadvantages and controlling them. Technological inventions are becoming an integral part of everyday life, yet there is an increasing gap between the generations of teachers and future teachers. For the teaching staff, inventions generally pose a serious problem, since representatives of this group have problems accepting and adapting to such changes. The right tools used by students allow them to obtain professional and technical qualifications that are necessary for success in the modern and future labour market. Now students are required to have certain skills, such as programming, knowledge of the basics of computer systems, and analytical thinking. This is due to the offer of comprehensive technical solutions for the personalisation of training and the creation of interconnected and effective groups and a safe, optimal SMART infrastructure [4; 5].

The purpose of the study is to highlight the features of the application of information and communication aspects in a specific educational system of the Republic of Kazakhstan, to consider innovative SMART technologies in the development of transliteracy to improve the level of education and qualifications of future educational psychologists so that they can use information, skills, and knowledge effectively.

Materials and Methods

Within the framework of the study, the following approaches to the research were used: prognostic, psychological-semantic, system-structural. The prognostic method allowed determining a system of requirements, rules, and principles of pedagogical activity aimed at cognition and mastery of transliteracy among future educational psychologists. The correspondence of adequate scientific applications of objects connects new tasks and capabilities of SMART technologies to determine the conditions and properties of interpretation of a modern learning model. Between its elements, there is a construction of predictable phenomena necessary for the educational process. Based on abstract-logical thinking, this methodology model involves the construction of a theoretical plan that includes the specific features of the studied parties, which express the working form of the hypothesis. Its systematic use justified the pedagogical and psychological information for the purpose of forecasting and systematising SMART technologies. The current analysis provided a number of techniques and principles for ordering and considering various components of the behaviour of future educational psychologists, including preliminary study. These factors are considered independent and are characterised by combined educational options, provided that specifically determined optimal means of effective consistency and promising solutions are used.

The psychological-semantic paradigm is aimed at studying the individual inner world of students, assuming to obtain individualised information in the development of transliteracy using modern technologies. It considers scientific analysis as structural and quantitative values that allow combining personal hypotheses in practice between students and the teaching staff. The transition from the objective to the subjective emphasises the role of practical activity in the establishment and development of transliteracy of future teachers. It is created based on individual traits, which are combined into generalised categories of cognition, setting areas for their own behaviour. The effectiveness of this method is explained by the quantity and quality of the information received to implement a wide range of tasks in the pedagogical process to diagnose the level of learning of students using SMART technologies, teaching methods, perception parameters. Its effectiveness allows identifying specific contradictions in students' views and attitudes, which contribute to promising career guidance and improving the quality of the achievement of purposes and objectives.

The system-structural approach was applied to review the compiled framework and problems with the use of innovative technologies in the development of

transliteracy of future educational psychologists. Its integrity is expressed when using dynamic systems, characterising the structure of the development of the subject between the components of non-classical science, which, in turn, generates a theoretical elaboration of modern possibilities. Exceeding the bounds of the systemic worldview allows identifying general patterns of functioning of this sphere, considering the formulation of mandatory functions and the composition of objects. The system-structural principle enriches the value of the educational activity with the syncretic representation of the multiplicity of managerial interpretations of students. It considers the pedagogical field as a focused strategy describing the functioning of the mechanism of SMART technologies in the structural subsystem of professional and motivational interests of students. Material carriers interact between structural and subject pedagogical results, fostering interest in the learning process and the development of students' transliteracy. System-forming factors build an appropriate ideology for the selection of means, forms, and methods of performing pedagogical activity.

Results and Discussion

The development of pedagogy together with innovative discoveries in the field of SMART technologies has become the driving force of the information society. Modern reality causes unimaginable changes in education, mentality, and daily life. Dynamic development causes qualitative and quantitative changes in teaching technology, which allows using more new didactic tools. Simple methods of education are supplemented and replaced by complex mass media. Modern technologies in the work of a teacher is a chance for innovative education of future educational psychologists. Changes and reappraisal of values include, firstly, transformations related to the preparation of students for life and professional activity in the modern digital world. They include the need to educate the appropriate teaching staff and transform society in relation to education. New priorities, an approach to the educational process and, as a result, references to teaching methods and strategies suggest a new quality of tasks and competencies of the teacher. Opportunities in the field of education and research are becoming wider [6].

In the field of education, in addition to well-known conventional solutions, innovative methods that have emerged as a result of the information revolution are increasingly appearing. New information technologies are an effective tool for supporting and improving various types of activities undertaken in the field of pedagogical activity. Using them, many psychological subjects cease to be characterised as boring transfer of a large amount of information, since they allow obtaining basic knowledge in a simple and pleasant way. Well-trained teaching staff can use information and communication technologies and a new model of education that considers the latest achievements, which should better prepare students for a rapidly changing reality. Such models clearly define a new paradigm of education, firmly introducing it into the society of innovative technologies. This allows students to prepare more effectively for the computerised and robotic world. Educational practice dynamically creates a new model of the profession of an educational psychologist, which should correspond to the rapidly changing reality.

For many years, the education process has been focused on knowledge, skills, attitudes, and competencies, and today knowledge is at the end of this hierarchy. This is due to the requirements of the modern labour market, which is interested in a professionally effective and qualified specialist engaged in various spheres of life. Focusing only on the educational implications, which are of particular importance for the considerations presented, it should be noted that the universal unhindered access of students to information from many sources and participation in global culture, create completely new challenges for the development of transliteracy. Educational institutions definitely lose their monopoly on the transfer of knowledge, becoming the organiser of the learning process rather than the source of knowledge. The decline in the intellectual level of students observed in many countries, combined with the fall of power and a negative change in the value system, a growing sense of deep confusion with modern technologies, create new problems in the system of implementing pedagogical tasks. The mentioned areas of information consequences interpenetrate and condition each other [7; 8].

Modern reality is subject to constant social, cultural, and technological changes that affect educational activities. One of the consequences of human initiatives and intentionally or unintentionally implemented media education are media competencies - individual and different for each student. Institutions are convinced of the need to acquire such competencies by organising nationwide programmes, including media education in the development strategy of the Republic of Kazakhstan. These recommendations cover, in particular, the development of digital competencies and their recognition as part of the key elements in the information and communication society. Transliteracy as a combination of individual qualities, on the one hand, and environmental factors, on the other, is due to digital SMART technologies that support the development of appropriate pedagogical competencies. Since modern education using innovative tools and mechanisms is still at a low level, the teaching staff must determine what digital experience future educational psychologists will acquire, whether they will show commitment in the field of acquiring and developing their own digital competencies, on the one hand, to implement the assumptions of the new basic educational programme, and, on the other hand, to contribute to their acquisition.

The spread of information and communication technologies has a huge impact on the development of transliteracy, which is important for teacher education. From a modern educational psychologist, higher competencies are required, which allow making the most of the acquired knowledge, skills, and motivation, which is an integral part of the personality structure. Professional competencies determine the ability and willingness to perform tasks at a high level using knowledge and experience at different levels and taking responsibility in different situations. The growing relevance of SMART technologies, their interdisciplinarity and integration mean that the standards of student training in this field are of particular importance. Currently, such training should

include the mandatory use of information tools as a learning environment [9]. The issue of preparing and developing transliteracy for professional activity is especially important due to the fact that it concerns a unique group responsible for helping people showcase their talents, make the best use of their opportunities, and acquire a wide range of knowledge and skills necessary in the professional life.

In the context of the development of transliteracy, it is necessary to consider the specific features of work in the conditions of progressive computerisation and the development of modern technologies. It is no longer enough to equip future educational psychologists with knowledge and skills to use new devices of information and communication means. It is vital to consider the creative application of various programmes in the learning process since it brings to the fore the skills and knowledge in the field of didactics, student psychology, and sociology of education. When using SMART technologies, it is necessary to consider the external conditions in which they will operate. The main purpose of all educational interactions is to prepare the student for productive professional activity. Its key feature is the rapid development and access to information on a very broad, previously unprecedented scale. Distance is becoming less important in communication and knowledge transfer, hence the rapid development of mechanisms that allow transmitting and analysing relevant information. The production of such assets becomes the driving force of the professional factor, the consequence of which are new flexible forms of work, intensification using a global information network and the development of teamwork [10].

The development of transliteracy for future educational psychologists is interpreted in different ways. It assumes a number of competencies, the most important of which are: deep knowledge of the material, knowledge of the subject, knowledge of developmental and pedagogical psychology, communicative and negotiation competencies because the didactic approach is a continuous process of communication. Within the framework of these components, it is necessary to effectively use mass media and information SMART technologies as a means of communication and information. Considering the huge variability of conditions, the list of necessary elements should be constantly expanded to include self-educational competencies and professional development. Constant changes in technical equipment and information explosion continuously change the requirements for the purpose of professional development. These transformations occur in the course of work, so students must retrain, train, and acquire other skills necessary to perform new tasks. Qualifications are not understood statically but emphasise flexibility and skill transfer. Consequently, pedagogical education includes a professional and continuous concept aimed at the gradual and systematic achievement of professional skills in the context of various innovations.

The most important basis for the development of transliteracy is the orientation of activities on the advancement of professional knowledge. The issues of professional standardisation arise due to global trends and SMART-technological processes, in the context of which standards of professional qualification of future educational psychologists have been developed. This name is most frequently used for model sets of knowledge and skills that perform certain functions based on the best representatives of this profession. In such a case, students are faced with a set of requirements that must be met to prove their competence to occupy a certain position. Regarding teaching staff, purely professional qualifications are systems of sensorimotor and mental skills in the form of methods of analysing phenomena, problem-solving skills, and organising research to identify various phenomena, using modern technologies and mechanisms. Of particular importance are the skills of creative influence and the development of creative attitudes of students, including interactive, pedagogical, didactic and, finally, linguistic skills. Since the new time requires new, richer competencies, generally equated with qualifications necessary for the effective performance of the teaching [11; 12].

The intensive development of information transmission and processing technologies creates combinations of computer and other multimedia technologies, the concepts of which affect many fundamental aspects of the functioning of education. With the inventions and advancement of new SMART technologies in the field of computer science and telecommunications, the development of future educational psychologists takes place in a modern computerised model of social development, which is the successor of the information society. Transliteracy is considered the main engine of rapid and stable learning development based on knowledge and digital tools. Its most important features include lifelong learning, the new role of science, the application of knowledge in practice, the increased importance of innovations, which are the basis for the development of an intellectual educational psychologist. The use of this knowledge as an element of one's own continuous development is an educational necessity. The consequence of this is mediatisation, that is, the transfer of an increasing amount of experience from the real world to the virtual and the study of the surrounding professional reality through the media through a variety of independent channels [13].

The work of a modern educational psychologist is not only to provide information but also to present it in a problematic form so that the student can see the relationship between their solution and broader problems. In the course of a professional career, the educational psychologist needs to update and improve data transmission methods, maintaining a balance between pedagogical competencies in this area. Thus, the educational process will develop towards meta-learning, the task of which is to prepare the future teacher for independent and continuous activity, forming innovative maturity, which consists not only in gaining the ability to search for information in various sources but also the ability to select and evaluate it using SMART tools. These are the features of the reflexive process that postulate the predominance of information, the restoration of teacher-student relations, skillfully combining the best features of conventional education with modern technologies and innovations. Emerging issues become subjects of research, and the spread of new information and communication technologies in the role of the teacher offers great hope.

The presence of SMART technologies that improve communication, education, and social interaction creates a media space in which various professional structures function. The changes that characterise the system of obtaining knowledge relate to the place of education and its importance. New mechanisms of computer-based learning and related educational programmes, the acquisition of knowledge via the Internet, are changing the role of the teacher. Its purpose is to motivate, encourage, and guide the learning process as effectively as possible while fulfilling the teacher's potential. Teaching methods include mentoring, coaching, and modelling. The art of motivation for self-improvement is possible solely through communication with a teacher who encourages students to work on themselves, deepen knowledge, and self-develop [14]. The problem of the development of transliteracy is broad and continues to change, and monitoring the changes is a necessity and allows adapting modern education, supported by new information technologies, to the needs of pedagogical knowledge. In addition to conventional tools in this regard, the most important is the development of not only the professional values of students but also the role of the development of skills in the field of information and communication technologies.

Rapid technological development determines the need to create new areas of study that provide employment. It is essential to improve and acquire new qualifications and skills that will make it interesting to use pedagogical experience in direct activities. The development of modern technologies, in a sense, becomes a partner of collective knowledge, it must be organised and oriented at changes. The modern teacher, along with the gradual loss of the monopoly on the transfer of knowledge, turns into a guide for increasingly complex structures, becoming a source of inspiration. The fulfilment of these tasks requires the efforts of not only the teaching staff but also various developing organisations [15; 16]. The orientation of SMART technologies depends on future educational psychologists since their driving force is new needs, conditions, and tasks that a specialist must meet. The fulfilment of these tasks requires the development of modern personal qualities, views, and the enhancement of previously unknown types of interests, talents, and abilities. Relationships built in the future should consider ethical aspects that arise not only from human morality but can also be supported by legal decisions.

SMART technologies have become an integral part of the development of transliteracy of future educational psychologists. The adaptation of institutions to the needs of modern youth, including the use of the latest advances in technology, will not only interest students in psychological science but also offer new experiences and discoveries, which will allow mastering the tools and skills of the 21st century. Technologies help to combine and process data effectively, encourage interaction with other students and allow them to communicate more productively [17-20]. All the above makes students more interested in science, which is no longer associated exclusively with theoretical data. Education becomes a continuous process, not just academic hours. Innovation encourages thinking and acting creatively, which has a big impact on individual and digital skills. The use of modern devices in the educational process can strengthen faith in abilities, and therefore increase self-esteem [21]. They are aimed at making learning activities more attractive, helping those who find it more difficult to learn by conventional methods. Digital components of competence that students should develop throughout their lives are necessary for self-fulfilment and personal development, employment, transliteracy, social integration, and full-quality life.

The use of SMART technologies for the development of transliteracy will prepare young teachers and psychologists to work in the labour market and use new opportunities in activities aimed at improving the quality of life. The implementation of appropriate solutions will make the contact between the teacher and the student more effective. However, it is possible to face many threats, which include: exposure to malicious content, intimidation, and Internet addiction. Irresponsible use of applications can also lead to financial losses. Therefore, it is important to support the educational process with nationwide programmes so that future teachers can use technology without fear and risk. There is no denying that innovative technologies represent an interesting variety of everyday activities. It is necessary to approach this matter consciously and diversify classes using a computer. This approach is due to the fact that the computer, the Internet, and television are now becoming a permanent element of reality [22-24]. Therefore, the key task of transliteracy is to prepare students for the sensible use of available technological achievements. Therewith, attention should be paid to the fact that multimedia education should begin as early as possible to provide students with equal educational opportunities [25; 26].

The opportunity to freely improve skills to be effectively used in teaching activities contributes to the fact that students can satisfy their need for success. A computer is an indispensable tool for the development of transliteracy among future educational psychologists. It can be used to perform specific didactic and educational tasks, and in classes that are directly related to the purposes in this area. It is necessary to set a certain working time using this device – on the one hand, it cannot be unlimited, on the other hand, each student should have enough time to complete the task. The programmes used during the educational process should have a multi-level structure and be adapted to various cognitive skills. If such mechanisms are implemented correctly and consistently, there is a chance to get a lot of positive effects when working with a computer [27]. The most important of these effects is to make learning more attractive and to introduce students to a new means of communication, to show them how they can be used and how to ensure their safety [28]. It is also worth noting that there is an opportunity to discipline young teachers and support the process of their personal development, which allows personalising and considerably accelerating memorisation of new information. Working with a computer can introduce tasks that combine visual and auditory stimuli, develop creative thinking, and improve attention and concentration.

Multimedia is also becoming a tool that greatly facilitates and helps to build the process of teaching and learning, considering the use of SMART technologies [29; 30]. There are many programmes aimed at developing spatial orientation, visual and auditory perception,

improving memory and concentration [31-33]. Therewith, it is increasingly possible to find "online" materials that consolidate the basic rules of psychological activity. An interesting solution is also the use of modern tests to check the amount of knowledge during classes. This is valuable, as the results generally appear immediately after the task is completed. Students receive very reliable feedback about the state of their knowledge [34]. In this way, students know what they need to work on and which elements should be paid more attention to. The use of multimedia technologies reduces the time required to learn certain skills and acquire knowledge. This has a positive effect on the interest in a given problem, increasing motivation to perform specific tasks that are constantly appearing. With the development of technology, it has become possible to conduct appropriate classes with gifted students who need stimulation and more complex material to study [35].

The question of passing psychological training increases the sense of competence in using new SMART technologies. Teachers are much more willing to use modern innovations, where young professionals demonstrate a greater level of independence, and digital components are commonly overstated, which requires greater competence of students. Meanwhile, the main curriculum obliges to introduce new tools, including those related to information technology. Educational institutions are not always fully equipped with digital equipment, and teachers are not always ready to use it. The reason for that is individual characteristics, the lack of faith in the effectiveness of training with the support of SMART technologies. Accordingly, the younger generation may not have high digital competencies and demonstrate activity, and their activities are largely imitative and devoid of great value [36]. Moreover, future teachers should demonstrate knowledge of multimedia tools and the ability to use them in accordance with the specific features of the field. The current process covers the planning, organisation, and conduct of didactic and educational activities using methods that activate innovative components for the development of transliteracy [37; 38].

Conclusions

Thus, the use of SMART technologies in the development of transliteracy of future educational psychologists is connected with information and communication mechanisms, which are the optimal model of modern education in the information society, carrying the opportunities and threats in the field under consideration. Such mechanisms focus on the development of attitudes and axiological sphere of students to prepare them for the constantly changing conditions of life and professional functioning, including the improvement of their skills, the ability to reflect and interpret various psychological situations. Due to theoretical reconstructions concerning the development of transliteracy, there is an opportunity to make the desired changes in education, overcoming the increasing gap between new opportunities. Information and communication technologies enable students to feel comfortable and familiar in this environment by providing them with modern tools and the desired competencies of the future.

The use of SMART technologies is currently making changes, so it is important to acknowledge the fact that this is an excellent tool for achieving previously set educational purposes while supporting the development of each student. The conditions necessary for the proper use of digital mechanisms include individual characteristics and a set of competencies, the presence of appropriate tools and external motivation to improve professional advancement. However, the most important thing is intrinsic motivation, which carries trust, dedication, conviction, and tangible benefits in the professional future of educational psychologists. Programming, learning through the use of various systems and applications increase the motivation of the future teacher in mastering the subject content by including new technologies that currently implement a new core programme in such a way as to fully exploit the potential of the development of transliteracy.

Certainly, the use of SMART technologies in the development of transliteracy has its advantages and disadvantages. Their advantages include the fact that they greatly facilitate the educational process for many groups of students, including young people with disabilities. With the use of modern technologies, one can acquire knowledge in a way adapted to the capabilities. Moreover, such innovative tools make learning more practical and interesting. On the other hand, the displacement of conventional elements leads to superficial interpersonal relationships. For that reason, the professional teaching staff is required, who, with their knowledge, experience, and dedication, will be able to correctly introduce modern mechanisms into the educational process in accordance with the set purposes.

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Conflict of Interest

None.

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Використання SMART-технологій у розвитку транслітераційної грамотності майбутніх практичних психологів

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Анотація

Актуальність. Актуальність дослідження зумовлена тим, що в освітній діяльності майбутніх практичних психологів можливе набуття сучасних професійних компетентностей з розвитку перекладацької грамотності з використанням SMART-технологій. Інтенсивне проникнення цих інструментів в освітнє середовище актуалізує вимоги та відповідність студентів, що призводить до оптимізації поточного процесу. Можливість доступу до якісних ресурсів підвищує роль індивідуальної роботи та самоосвіти, які спрямовані на високий рівень самостійності.

Мета. Мета дослідження – висвітлити особливості застосування інформаційно-комунікаційних аспектів у конкретній освітній системі Республіки Казахстан, розглянути інноваційні SMART-технології у розвитку транслітерації для підвищення рівня освіти та кваліфікації майбутніх педагогічних психологів, щоб вони могли ефективно використовувати інформацію, навички та знання.

Методологія. Було використано такі методи: прогностичний, психолого-семантичний, системно-структурний.

Результати. Необхідність підвищення якості освіти на основі використання сучасних технологій актуалізує розвиток творчої та активної особистості як суб'єкта майбутньої професійної діяльності. Майбутній практичний психолог повинен вміти раціонально вирішувати конкретні завдання, бути конкурентоспроможним на ринку праці, постійно підвищувати свою компетентність, освіченість та ефективність, використовуючи новітні механізми. Крім того, завданням професорсько-викладацького складу є вміння орієнтуватися та визначати сучасні перспективи для успішного впровадження SMART-технологій в освітній процес з метою підвищення якості підготовки майбутніх практичних психологів.

Висновки. Практична цінність дослідження полягає у забезпеченні інноваційного підходу до освітнього процесу з упровадженням SMART-технологій для розвитку транслітераційної грамотності майбутніх практичних психологів.

Ключові слова: SMART-технології; інновації; транслітерація; саморозвиток; майбутні практичні психологи.