Application of International Scientometric Databases in the Professional Training of Future Teachers of Psychological and Pedagogical Disciplines: Capabilities of Web of science (WOS), Scopus, Google Scholar

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Summary
The aim of the work is to determine the potential directions and ways of using international scientometric databases by students of psychological and pedagogical disciplines. By analyzing the potential opportunities and benefits of Web of Science, Scopus, Google Scholar, the potential directions of their application for master's training of teachers are formed. According to the results of the processed material it is noted that for stable production of quality scientific products and excellent presentation of scientific achievements of the institution, a specific author at the national and international level, the university needs a comprehensive program to stimulate publishing activity. indexed in leading international abstracts, will also include measures to reduce the teaching load for productive researchers of the university, full involvement of masters and graduate students in the scientific work of the institution, regular lectures and trainings on modern tools of scientific information management.

Keywords:
modernization of educational processes, professional training, professional competence, professional competencies, pedagogical innovation, innovative educational technologies.

1. Introduction

Domestic education is developing in an era of major socio-political, economic, epidemiological, educational, and organizational changes, which cannot but affect the quality of the educational process. As a rule, this trend is characterized by negative consequences, gradually trying to minimize the profile of public administration structures and scientific and pedagogical staff, including at the expense of the best information and communication technologies and the possibilities of the Internet. To a greater extent, this applies to institutions of higher education. The development and regional branching of higher education institutions in Ukraine make it possible to cover a significant part of the country's population with subsequent career growth and the possibility of retraining, which is discussed in the Strategy for Higher Education Development in Ukraine for 2021 – 2031 [4, p. 9].

2. Materials and Methods

At the same time, there is an increasing trend of educational migration, the problem of practical inconsistency of training with the existing and prospective needs of the labor market (the needs of employers), and the loss of human resources is becoming acute. The above list is inexhaustible and is systematically supplemented, depending on what sector we are talking about. According to the Ministry of Education and Science of Ukraine, every year there is a significant reduction in the number of

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specialists receiving higher education in the qualification level/degree "pedagogy". For example, in the 2018-2019 academic year their number was 16,838 people, while in the 2019-2020 academic year the figure was only 10,112 people [3, p.112].

The fall in the prestige of teaching has caused a decrease in the number of students taking graduate courses: the figure dropped from 50.6% to 34.6% in the corresponding periods [3, 2020, p. 113]. Considering the number of actual vacancies, the greatest need for teachers in higher education institutions is in Ivano-Frankivsk, Transcarpathian, Rivne, Kyiv regions.

In addition to professional training, it is important to intensify the desire of future specialists to engage in research work, analyze problematic issues and propose ways to solve them, publish the best results, and implement them in practical activities. Innovation in education is an indispensable element for modernizing the educational process of higher education students and ensuring their quality professional competence. Innovative technologies are synonymous with the word relevant, so we appeal, on the one hand - to the need to integrate the results of research published in international scientometric databases into educational material, on the other hand - to implement practices and develop skills of working and publishing author's research on these platforms.

The aim of the work is to identify potential directions and ways of using international scientometric databases for students of psychological and pedagogical disciplines. Achievement of the specified purpose will be hidden by the performance of the corresponding tasks which are reduced to the definition of the general tendencies of master's preparation of the future teachers; definition of a role of information technologies in the specified process; differentiation of criteria of professional readiness of the future expert; assignment of scientometric bases for professional preparation of experts-teachers.

3. Results

About the effectiveness of psycho-pedagogical training and the effectiveness of the implementation of innovative technologies can be discussed based on the state of scientific developments and ongoing pedagogical research. Caiado, Fonte, and Barros [7] note the need to find new ways and approaches to teaching that will go beyond the classical methods practiced in recent years. We are talking not only about schoolchildren but also undergraduate and graduate students.

Harahulia [1], Tadeev and Martynyuk analyze the possibilities and advantages of international scientometric databases [5]. At the same time, the number of works of applied nature remains insignificant, namely, the issue through the prism of professional training of future teachers of psychological and pedagogical disciplines is practically not disclosed.

The main task of domestic and foreign universities in the preparation of undergraduate students of psychological and pedagogical disciplines is the practical ability to realize their labor potential and work in real society. Professional readiness of an individual reflects a functional triad: identifier, condition, and regulator of effective professional and creative activity of a professional, indicator of the formation of relevant skills. All the training formats, namely lectures, individual studies, seminars, meetings, are used to implement the above-mentioned goal. No less important role is played by self-education, self-education, extracurricular activities. Readiness as a concept of professional certainty is revealed through the unity of stable and situational attitudes, which in chronological order start from the passage of training to the actual work in the specialty. An important role here is played by the psychological factor, internal stimulus, and attunement to the appropriate behavior, which is conditioned by the individual characteristics of the profession.

The professional training of future teachers depends largely on the students' ability to use digital technology. In addition to searching for methodological and didactic materials, computer programs allow for pedagogical creativity, i.e., to independently create layouts, diagrams, programs, audio-visual materials for a single lesson or a series of lectures. Yes, it is advisable to pay attention to the potential of Google services. According to their characteristics, they have a number of practical advantages, among which we highlight the gratuitous basic package of services, simple authorization through a single Google account, cloud storage of information, and an intuitive interface. Google Hangouts, Google Talk, and Google Meet imply the possibility to communicate in real-time, as well as exchanging text messages. According to the technical functionality, they are a worthy alternative to Skype, Zoom, Discord, WeChat. It is reasonable to use the resources in the organization of distance learning, the more so as they support the translation of multiformat material. For the same purpose, a network of virtual libraries is created and expanded, digitizing and systematizing the material, thereby providing full support to students, transmitting all the information, dispelling doubts on controversial issues (Rocha and Santos, 2021, p. 2722).
For example, the presentations created in Google Slides are of the same quality as PowerPoint presentations. Graduate students of educational psychology should submit material in this format when reviewing the following topics: "Raising Children with Behavioral Disorders: the Impact of Asocial Persons and Reference Groups", "Active and Interactive Learning", "Academic Underachievement: Causes and Methods of Prevention", "Methods of Educational Psychological Research". More

extraordinary works can be created through the Prezi platform.

To quickly check the knowledge of an individual student, and to determine the measure of assimilation of information by the whole group should use Google Forms - ready-made templates for testing. The settings allow you to provide the ability to select one or more answers, reinforce the text values with visual images (photo or video format), the statistics of the answers for each block is grouped automatically, both in Excel tables and charts. Written papers and small essays are easy to prepare and check via Google Docs. For example, future teachers can be offered to hold a class devoted to the works of Anton Makarenko; prepare individual analytical works based on the results of reading "Pedagogical Poem", "A book for parents", "Methodology of the organization of the educational process." The object of a similar activity could also be the works of Kostiantyn Ushynskyi "Man as a subject of education", "On the nationality in public education", etc.

Additional thematic online platforms Prometheus, Plato's cave, EdEra, Coursera, Udacity are integral elements in the profile training of teachers in educational psychology. The materials broadcast by the speakers in these courses are professional and analytical, adapted for the understanding of graduate students. As a format of extracurricular training, materials from the above resources perform an ambivalent function: on the one hand - allow teachers to find and implement new data in their work, on the other hand - independently mastering data that require additional processing, form an individual request, i.e., enlightened.

The formation of professional preparedness is not only the information basis with which teachers and students must work but also the use of the most effective methods. Since we have previously talked about digital technologies, we cannot ignore immersive learning - the use of visual and augmented reality (virtual and augmented) technologies in the educational process. The system is already available in higher educational institutions in European countries, it is proactive in its essence, creating a realistic environment. To implement this methodology in domestic practice, it is necessary to attract sponsorship from specialized private organizations, in turn, based on the educational achievements of students - to recommend the best to attract permanently to work in the organization.

In the system of master's training of future specialists in the pharmaceutical industry introduction of dual education is possible through the social partnership of higher educational institutions that train pharmaceutical personnel and modern pharmaceutical production - industrial pharmacy enterprises, research and production centers, pharmaceutical distribution companies, pharmacy holdings, including pharmaceutical production, wholesale and retail trade, to expand the list of professions, positions, and completeness of implementation [4].

The results of dual training - theory and practical skills - can be embodied in the research of young scientists. Research of practical relevance and value is reflected in scientometric systems/databases. They are analytical, comparative-ranking ("indexing-ranking"), bibliographic and abstracting databases, a tool for tracking citations of scientific publications and other results of scientific and research activities. At the same time, they represent a search system capable of independently summarizing the statistics characterizing the state and dynamics of the indicators of demand, activity, and influence indices of the activity of individual scientists and research organizations [5].

The most authoritative scientometric databases include Web of Science (WOS), Scopus, and Google Scholar. For a better understanding of the directions of use of the above systems, it is necessary to disclose their functionality in more detail.

Web of Science (WOS), like Scopus, is one of the largest abstract databases available to users on a subscription basis. The significant impact of WOS on the scientific community is primarily evidenced by the indexing figures. Now it is not just a catalog of academic publications, but a selective, structured, and balanced database with full citation links and advanced metadata that support a wide range of information tasks [6, p. 364].

A platform for searching, managing, analyzing bibliographic information can actually be positioned as an aggregator since it accumulates four collections:

- Science Citation Index Expanded (SCIE) – natural and technical sciences;
- Social Sciences Citation Index (SSCI) – social sciences;
- Arts & Humanities Citation Index (AHCI) – human sciences;
- Emerging Sources Citation Index (ESCI) – a multidisciplinary index covering all fields of science, including the social sciences and the humanities [10, p. 126].

The publications in the SSCI and AHCI blocks can actually be used for the professional training of future teachers. Three basic types of search are available to users of the system: basic, advanced, and bibliographic. Sampling is also done by language and time criteria. It is worth noting the advantages and opportunities provided by the registration in the database: citation alerts; saving searches (launching saved searches from the main WOS page, accessing pre-saved searches from any personal workstation); managing bibliographic information through the use of the EndNote system.

Technical evaluation is applied to all Collection journals without exception, where their e-formats are taken as a basis (as a rule, it is XML, PDF). This is a confirmation of

the compatibility of content access in e-format with indexing systems [8].

Among the non-commercial international platforms, which activity is especially important proceeding from the modern realities, the product Google Scholar occupies a working place. It interacts with different types of documents, but in comparison with Scopus and WoS - carries out less qualitative control over content filling. The set parameters of the program visit only the sites, on their target purpose devoted to questions of science, accumulate in the index the data on a site and the maintenance of scientific works. This often includes studies of individual web pages and sites of scientific teams, publications of journals, scientific repositories. From the list of features of Google Scholar, we highlight significant geographical, linguistic, and industry coverage of publications; correlation of bibliometric indicators with the same indicators of other scientometric platforms, including Scopus. The advantages demonstrated by the system include the ability to track real citation statistics, integration with mobile systems, and a convenient interface [1; 7]. The ranking of results is based on the criterion of relevance: the most popular scientific articles will be chronologically placed first. In practice, as a rule, advanced search by specific parameters is used, which avoids the need to process information and does not constitute a research need for the scientist. Creating a publicly available Google Scholar profile allows the proper use of the citation and citation function. The author chooses the style in which his or her work will be cited.

The Scopus data structure is based on the following concept: articles are written by authors affiliated with certain organizations, which means Scopus can show with high accuracy who, where, and what they do in the scientific world based on their publications. Scopus searches for scholarly papers by subject to gain new knowledge/scientific facts; to inspect by subject (publication activity of the published person, where the article is posted); to select journals for further submission of their article; to analyze potential collaborations. It is not necessary to subscribe to search for authors and partially view their profiles. But it should be noted that Ukrainian- and Russian-language journals in Scopus have the name written by transliteration. Despite the rapid growth of the Scopus database, WoS wins in the volume and depth of its archive. This is especially true for records created earlier than 1996, since that time bibliographic descriptions of scientific publications in Scopus contain a list of references. The common factor is that the selection criteria of both platforms are rather strict, and, accordingly, the rejection rate is high.

It is not for nothing that Tadeev and Martyniuk [5] note the intensity of the processes taking place in the educational sphere, where research work is positioned as one of the highest stages and results of thinking activity (p. 227). The future teacher of psychological and pedagogical disciplines in the course of master's training fully assimilates methods of using and processing extensive databases; ways of solving scientific and pedagogical tasks; learn critical, large-scale, creative thinking; understands the content and features of information protection provision. Since extracurricular work it is a key way to form a highly qualified specialist, it is logical that it involves involvement in student information-analytical centers, including research in coordinated cooperation of various departments, faculties, inter-university communication. To the above list, we also include advertising and lecturing activities, work of scientific circles and problem groups, writing articles, and other publications. The ability to correctly use the knowledge and principles of working with international scientometric databases opens up a whole range of unprecedented opportunities for researchers, which decades ago the scientific community could not even foresee. In particular, we are talking about constant updates of data, current topics and research directions (including access to them), compilation and familiarization with the ranking of scientists, processing of information about the scientific activity, etc.

While students and experienced scientists make a subjective contribution to the chosen scientific field, the results presented on the Internet are harmoniously systematized with the help of aggregators of scientific publications. In connection with the above, it is recommended to intensify the work and increase the number of seminars in this area, as practiced by the Kyiv University NTUU “I. Sikorsky KPI”. Thus, in 2022 based on the library of the institution organized and conducted short-term webinars in the narrow area of “Analysis of grant support and effectiveness of cooperation in Web of Science and InCites”, “EndNote reference manager to work with bibliography”, an online blitz in the form of “Aspirant asks - Librarian answer” and conferences, which analyzed more global issues (for example, “Library Development Strategies: from idea to implementation” [3]. No less importantly, it is practiced in at least two working languages of events: Ukrainian and English, because Ukrainian educational institutions hospitably accept foreign students who already have their own background and are able on its basis to make certain comparisons from the features of training future specialists in educational psychology in their country and in the state where they directly receive education, and further - to reflect ideas, arguments, predictions on this subject in the research papers. Such activities are important from the position of providing academic virtue to students, including writing papers on pedagogical psychology and their subsequent publication. This issue remains largely open due to the lack of quality anti-plagiarism systems. Those present on the Internet (StrikePlagiarism.com, Advego, Text.ru,

eTXT, Turnitin) and those platforms used in higher educational institutions (Unicheck, Copyscape, PlagTracker) do not solve the main problem - they are not able to identify works created based on deep rewriting. An idea borrowed but stated due to a different set of lexical units (constructions) is already inherently plagiarism, a violation of copyright, and therefore cannot be admitted to publication in a publication.

4. Conclusions

It can be predicted that for the stable production of quality scientific products and excellent representation of the scientific achievements of the institution, a particular author at the national and international level, the university needs a comprehensive, consistent program to encourage publication activity, in addition to the fair distribution of material incentives for publications in the publications indexed in the leading international abstract databases, will also include measures to reduce the classroom teaching load for productive scientists.

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