DEVELOPMENT OF PROFESSIONAL COMPETENCIES IN HIGHER EDUCATION STUDENTS: A SYSTEMATIC REVIEW

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KEYWORDS	ABSTRACT
Education *Higher Education* *Student* *Competencies* *Professional Skills* *Employability* *University Student*	*The development of professional skills in university students is essential for their comprehensive training and success in the educational and work environment. A literature review was carried out to identify aspects related to the professional skills of the students, for which 17 articles from the Scopus database were selected and analyzed. It is concluded that it is necessary to provide constant attention to students and the new environment to adapt study plans and promote strategies to prepare students for professional challenges and opportunities.* .

1. Introduction

Professional competencies in university students is an issue of great relevance in the educational and labor field, given that their adequate development plays a fundamental role in the integral formation of young people and in their success. The world with its constant change and evolution generates that the demands of the labor market are rapidly transforming, so it is essential that educational institutions and teachers focus on providing students with the motivation to develop skills and acquire the necessary knowledge that will lead them to face the challenges and take advantage of the opportunities within their professional field.

The international reality shows a growing interest in professional competencies in university students, so universities and employers are increasingly recognizing the importance of students acquiring a combination of technical and transversal skills that allow them to perform successfully in the workplace; in addition, the advance of emerging technologies and globalization have generated changes in market requirements, which has led to rethink traditional educational approaches and adapt them to current needs (D'Souza et al., 2021).

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In the theoretical framework, different models and approaches have been proposed to understand and promote the development of professional competencies in university students (Flores et al., 2021). One of the most prominent approaches is the generic competencies model based on the idea that there are fundamental skills and knowledge that are transferable and applicable to different work contexts. Likewise, these competencies include skills such as effective communication, teamwork, critical thinking, problem solving and adaptability. In addition, it has become evident that entrepreneurial skills are increasingly valued in the workplace. The ability to undertake, innovate and take risks is considered essential in a changing economic and work environment. Therefore, it is important that students develop entrepreneurial skills during their university education, regardless of their area of study, so that they are prepared to face the challenges and demands of the labor market, contributing to the socioeconomic development of their communities.

Related research has provided evidence on the importance of professional competencies in university students and their relationship with academic and employment success; thus a study conducted by Ochoa et al. (2022) found that students who developed transversal competencies, such as effective communication and teamwork, had superior academic performance and higher employability compared to those who did not develop these skills (Iqbal et al., 2022). Another study conducted by Castagnola et al. (2021) where they investigated the relationship between entrepreneurial competencies and job performance of university graduates, showed that students who developed entrepreneurial competencies during their university education had higher levels of job satisfaction, autonomy and entrepreneurial success.

The justification for the importance of knowing and studying the subject of professional competencies in university students lies in several aspects (Holguin et al., 2020). Such as providing a solid basis for the design of curricula and educational programs that meet the needs of the labor market. By understanding the competencies demanded by employers, educational institutions can tailor their academic programs to ensure that students acquire the skills and knowledge necessary to succeed in their professional lives. In addition, knowing the professional competencies also allows teachers to develop effective pedagogical strategies that foster the development of these skills in students. This involves the implementation of active and participatory teaching methods, as well as the integration of emerging technologies and open education approaches that promote experiential learning and the acquisition of practical competencies. Finally, the justification for learning about this topic lies in the improvement of educational programs, the design of effective pedagogical strategies and the social and economic impact it can generate. It is essential that educational institutions and teachers commit themselves to the integral development of students and prepare them adequately for their insertion into the world of work.

Another relevant aspect is the social and economic impact that the development of professional competencies in university students can have on a society. A well-prepared and competent student body contributes to the economic growth and sustainable development of a country, while promoting the employability and social mobility of individuals. Therefore, the study of professional competencies in university students is crucial nowadays, since they are necessary for students to acquire technical and transversal skills to face labor challenges. Existing models and theoretical approaches provide a solid framework for understanding and promoting the development of these competencies. Thus, the objective of the research is to identify how professional competencies have been developed in university students, in order to face the constant changes of these times.

2. Development of the research

In order to develop this systematic review research work, the review research method was applied with a descriptive approach; in addition, an analysis was made by means of descriptive comparisons of the results obtained. The information was searched in the scientific database Scopus, considering the range between the years 2021 and 2023, in open access articles, in the languages of Spanish and English, related to the area of social sciences. The information search was performed using the keywords: ("professional skills" OR "Professional Development") AND ("University Students").

Thirty-nine papers were identified that met the inclusion criteria. The abstract of each one was read to identify the articles related to the objective of the study and 17 articles were selected; these are shown below:

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Table 1. List of articles selected for the study

N°	Author	Title
1	Patiño et al. (2023)	Active learning and education 4.0 for complex thinking training: analysis of two case studies in open education
2	Gomez, S.M., & De Luna (2023)	Competence Training and Employability
3	Lopez-Torres et al. (2022)	Twitter in Initial Teacher Training: Interaction with Social Media as a Source of Teacher Professional Development for Social Studies Prospective Educators.
4	Vega-Ramírez et al. (2022)	The Effect of Group Work on Expressive-Artistic Activities for the Emotional Regulation of University Students
5	Slišãne et al. (2022).	The Effect of Group Work on Expressive-Artistic Activities for the Emotional Regulation of University Students
6	Oralgaliyevna (2022)	Psychological states of professional anxiety and job perceptions of university students
7	Park (2022)	A needs analysis to develop new curriculum for Korean college students in higher education.
8	Lo & Liu (2022)	How to Sustain Quality Education in a Fully Online Environment: A Qualitative Study of Students' Perceptions and Suggestions.
9	García-Laso et al. (2022)	Mentoring in the School of Mines and Energy to Cover Student Needs: From the Newly Enrolled to the Near-Graduates
10	Maldonado et al. (2022)	Oral skills and anxiety: training and efficacy in undergraduate students.
11	Kohnke et al. (2022)	Exploring pre-service teachers' beliefs about EAP instruction in China - A case study.
12	Comesaña-Comesaña et al. (2022)	Technocreativity, Social Networks and Entrepreneurship: Diagnostics of Skills in University Student
13	Wong et al. (2021)	A mapping of graduate attributes: what can we expect from UK university students?
14	Panasenko et al. (2021)	Trends in the Development of University Education in the Postmodern Period
15	Arvelo-Rosales et al. (2021)	Initial training of primary school teachers: Development of competencies for inclusion and attention to diversity
16	Santos Rego et al. (2022)	The Evaluation of Social and Professional Life Competences of University Students Through Service-Learning
17	Duque-Aguilar (2021)	Teachers' assessment approaches regarding efl students' speaking skill.

Source: Own elaboration

3. Results

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The analysis of each of the 17 articles was carried out, describing the results and conclusions of each one, which are detailed in the following table:

Table 2. Conclusions of the selected articles

N°	Author	Conclusions
1	Patiño et al. (2023)	The findings of this study reveal that the use of emerging and 4.0 technologies in open education movement initiatives continues to increase and inclusive access to education and continuous professional development of teachers is an ongoing concern addressed in open education initiatives. It is suggested that training and development interventions involving the creation or design of open education initiatives should focus on encouraging all types of open education practices such as use, production, dissemination and mobilization.
2	Gomez, S.M., & De Luna (2023)	Universities should try to adapt their curricula to the training in competencies demanded by employers, for which it is necessary to know the business profile that incorporates graduates in internships or as employees and to know with what preparation in competencies students arrive at their first job. Among the competencies valued by companies are teamwork, communication, self-knowledge, personal growth, innovation and entrepreneurship. In any case, this requires a curricular change and a change in the learning process in the university institutions, achieving the integral formation of the students, understood as one of the pillars and main purpose of the University under analysis.
3	Lopez-Torres et al. (2022)	The results show that the group in which the future educators interacted more with each other using Twitter during the interventions was the one that showed a significant increase in the future teachers' perception of the educational potential of social networks. This reinforces the line of research to test, longitudinally, to what extent the training that future educators have received and experienced as students will enable them to use social networks in the future.
4	Vega-Ramirez et al. (2022)	It is necessary to generate educational structures that are based on teamwork and group work but that build collective knowledge where each team member is responsible for his or her own learning and that of his or her peers. Some of the most common difficulties were related to the perception of one or more members of the group of inequality in the amount of work done or the level of commitment shown by the members. There are several ways to process and regulate the emotions that arise in these situations: through the construction of narratives and self-regulation, co-regulation, or through social regulation; these must be processed and resolved individually, so that they do not affect social interaction.
5	Slišāne et al. (2022).	The study presents a comparison of the entrepreneurial competence self-assessments of bachelor's, master's and doctoral students in bioeconomics and educational sciences. Despite the fact that entrepreneurship is more closely linked to economics, the results show that, in two of the three main areas of entrepreneurial competencies, education science students self-assessed their

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		entrepreneurial competencies higher than bioeconomics students.
6	Oralgaliyevna (2022)	It was concluded that they had concerns, did not yet feel competent in the professional field and found the education received insufficient. It is stated that when choosing a profession, individuals should be selected according to their characteristics. The student's concern is due to not being able to find a job; likewise, it can be interpreted that undecided students do not adopt the profession and therefore cannot make a decision. The problems are identified to the profession not being valued enough in society, with low salaries and not being paid enough for jobs related to their profession, they had career anxiety because they felt inadequate and not knowing what to do when they started working. The behavior in career selection should depend on interests, skills and values, it is very important to be compatible with the possibilities.
7	Park (2022)	As a result, several students' perspectives were revealed. First, this study showed that competency-based language teaching is essential for students' language development. Second, skill integration was needed to improve language skills. Third, students expected constructive feedback from the teacher on their use of English grammar and vocabulary. This study presents the importance of conducting a needs analysis and suggests that language teachers should consider it for their professional development and growth in higher education.
8	Lo & Liu (2022)	The findings of this study suggested that our participants were generally satisfied with how synchronous online lessons were progressing, but that technical problems for teachers were common. It also reveals the need for professional development opportunities for teachers to improve their online teaching skills. There is discussion about allowing students to form their own groups, while helping students with poor social skills to join a group. Therefore, this study has important implications for maintaining quality education in a fully online environment.
9	García-Laso et al. (2022)	Tutoring programs in university education have proven to be a great support tool to solve these difficulties in addition to helping the personal and professional development of students. Initially, to guide and monitor projects that provide administrative and academic support, then to provide tools to select a specialty; and finally, the professional support that helps students to develop their future careers.
10	Maldonado et al. (2022)	Positive and effective results were observed in the improvement of oral skills and confidence in public speaking, as well as a reduction of anxiety after the different interventions. The findings are relevant for implementation in specific programs to improve communication skills in students. Likewise, educational and psychoeducational interventions improve oral competence and anxiety, and the application of a communication workshop is more effective than other strategies, generating a climate of participation in the classroom.
11	Kohnke et al. (2022)	The thematic analysis revealed complexities comprising current education, the traditional top-down system, learning styles, status and lack of professional development opportunities.

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12	Comesaña-Comesaña et al. (2022)	After developing skills in digital talent, creativity and implementing work methodologies such as *design thinking* and *growth hacking*, students' self-learning was encouraged, improving their e-competences, creative capacity and practical skills for a better adaptation to the needs of social demand, where knowledge transfer generates scenarios of development and growth, and fosters innovation. This innovative initiative will allow Higher Education students to acquire the most demanded competencies in a multidisciplinary labor market that also requires specific competencies in creativity, strategic capacity, project management, product innovation, solution generation and entrepreneurship. This is the basis of an integral project of triangular synergy between University, Business and Society.
13	Wong et al. (2021)	The analysis suggests four discourses that characterize the general qualities that UK students can expect to embody upon graduation: self-awareness and lifelong learning, employability and professional development, global citizenship and engagement, and academic and research literacy. These discourses are discussed in relation to the concept of the ideal graduate, i.e., highlighting what can be expected of students completing a UK higher education.
14	Panasenko et al. (2021)	The university administration should form a strategy for the future development of the institution and, in accordance with the request of society, form the content of university education. One of the priorities in the development of business strategies is monitoring, in particular questionnaires and prioritization of students' professional competencies. This approach will ensure the institutional effectiveness of university education in the context of the development of society in the postmodern period. The transformation processes taking place in society affect the educational environment and the activities of higher education institutions, and the participation of students in the formation of the University's development strategies creates in them a sense of belonging to the educational process. Regular monitoring of students' vision of the content and quality of future education determines the educational path of the university.
15	Arvelo-Rosales et al. (2021)	Training gaps related to training for educational inclusion in future teachers and attention to diversity were identified. Students stated that they did not have adequate knowledge corresponding to the educational profile of inclusive teachers, which include their competencies: understanding diversity as a value, attention to all students, teamwork, continuous professional development. Another finding was the relationship between students who had experience with people with educational needs and the development of their competencies to be inclusive professionals. It would be interesting to propose a practical approach in the degree, allowing students to work with people with educational needs and thus develop their knowledge, skills and attitudes.
16	Santos Rego et al. (2022)	The inclusion of community service in the academic and curricular tasks is capable of approaching university education in a holistic manner, strengthening transversal learning processes that can be useful in the transition of students from academic to professional life. Thus, the areas worked on are the student's autonomous work, the social dimension of learning and the acquisition of competencies complementing the technical knowledge of the subject.

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| 17 | Duque-Aguilar (2021) | Language literacy assessment can be an opportunity for students to become aware of how instruction and learning are interrelated to develop assessment practices separate from summative principles, consolidate and implement assessment instruments, support student guidance through feedback, and interpret assessment results to make decisions based on them. |

Source: Own elaboration

4. Conclusions

The need to incorporate emerging technologies and 4.0 in open education initiatives is highlighted, seeking inclusive access to education and continuous professional development of teachers, which implies promoting open education practices in all its forms, from the use and production to the dissemination and mobilization of educational resources. Likewise, the importance of universities adapting their curricula to meet the demands of employers for competencies is recognized, which implies a change in the curricular mentality and in the learning process, with the objective of integrally training students and preparing them for their insertion into the labor market. On the other hand, the educational potential of social networks and the need to train future educators in their proper use are highlighted; in addition, the importance of teamwork and the construction of collective knowledge is emphasized, although difficulties related to the perception of inequality within the teams are recognized.

In terms of entrepreneurial competencies, it is observed that students in educational sciences evaluate their entrepreneurial competencies higher than students in other disciplines, which may be a reflection of the differences between the areas of study; also, the importance of self-awareness, lifelong learning, employability, global citizenship, academic engagement and research literacy are highlighted as general qualities that students should develop during their higher education, thus it is essential to provide professional development opportunities for teachers to improve their online teaching skills and ensure quality education in virtual environments.

The implementation of tutoring programs and the focus on communication skills are also shown as effective strategies to improve the personal and professional development of students, which emphasizes the importance of training for educational inclusion and the adequate knowledge of teachers about diversity and special educational needs. On the other hand, community service and students' autonomous work are highlighted as elements that complement technical knowledge and foster the development of transversal competencies necessary for the transition to professional life. Finally, the importance of language literacy assessment that goes beyond summative approaches and promotes feedback and informed decision making is highlighted.

In summary, the development of professional competencies in university students is essential for their comprehensive training and their success in the educational and work environment, it is important to require constant attention from educational institutions and an adaptation of curricula to meet the demands of the labor market that are constantly evolving. Likewise, training and development strategies should be implemented to promote the effective use of technology, teamwork, educational inclusion, and the development of communication and research skills. These efforts will help prepare students for the challenges and opportunities they will face in the professional world.

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