

Challenge Of Higher Education Institutions – IES "Selection of University Teaching Staff"

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A documentary review was carried out on the production and publication of research works related to the study of the variables Personnel Selection, University Professors and Higher Education Institutions. The purpose of the bibliometric analysis proposed in this document was to know the main characteristics of the volume of publications registered in the Scopus database during the period 2018-2023, achieving the identification of 25 publications. The information provided by this platform was organized through graphs and figures categorizing the information by Year of Publication, Country of Origin, Area of Knowledge and Type of Publication. Once these characteristics have been described, the position of different authors regarding the proposed theme is referenced through a qualitative analysis. Among the main findings made through this research, it is found that China, with 18 publications, was the country with the highest scientific production registered in the name of authors affiliated with institutions in that nation. The Area of Knowledge that made the greatest contribution to the construction of bibliographic material related to the study of the Selection of personnel, University Professors and Higher Education Institutions was Computer Science with 10 published documents, and the most used Type of Publication during the period indicated above were Journal Articles with 64% of the total scientific production.

Keywords: Personnel selection, University Professors and Higher Education Institutions.

1. Introduction

Higher education plays a fundamental role in the development of society, and the quality of this depends to a large extent on the teaching staff, which is considered a factor of greater influence, since it depends on aspects such as: innovation, adaptability and quality of teaching, in addition to having essential skills such as, culture, pedagogy and cognitive development. (Thartan, 2015)

The quality of universities is reflected in the characteristics of their teaching staff and this fact causes uncertainty in the selection and evaluation processes around the performance of teachers who guarantee high-level services. Therefore, the selection of teachers aims to evaluate their capacity to produce the effects that the university requires, that is, teaching,

research and linkage.(Casillas Martín, 2015)

The selection of teaching staff in universities is among the main responsibilities of the people management sector since this process can directly affect the performance of universities. To do this, a series of tools are used such as interviews, CV reviews, ability tests, public competitions, among others. According to , selection processes should be focused on the objectives of the universities. There is still discretion in the committees responsible for the selection processes of teachers with respect to the criteria and merits to be chosen for evaluation. Therefore, at present there is no explicit definition of the best criteria for the selection of candidates for the teaching corps.(Lotta, 2002)(Alonso, 2015)(. Rodrigues, 2013)

Despite efforts to improve quality in selection processes, a number of challenges remain. For example, it is still complex to determine clear and objective criteria to evaluate teacher quality. . The lack of a clear explanation of the position to be filled, which can hinder effective selection is crucial. Since it is necessary to focus on the search for them objectives that have knowledge that allows students to develop, among which we find, teaching project, personal skills and improvements in academic performance. (Santelices, 2015)(Escudero, 2010)For this reason, this article seeks to describe the main characteristics of the compendium of publications indexed in the Scopus database related to the variables Personnel Selection, University Professors and Higher Education Institutions, as well. Such as the description of the position of certain authors affiliated with institutions, during the period between 2013-2023.

2. General Objective

To analyze, from a bibliometric and bibliographic perspective, the preparation and publication of research papers in high-impact journals indexed in the Scopus database on the variables Personnel Selection, University Professors and Higher Education Institutions during the period 2018-2023.

3. Methodology

This article is carried out through a mixed orientation research that combines the quantitative and qualitative method.

On the one hand, a quantitative analysis of the information selected in Scopus is carried out under a bibliometric approach of the scientific production corresponding to the study of the Selection of personnel, University Professors and Higher Education Institutions. On the other hand, examples of some research works published in the area of study indicated above are analyzed from a qualitative perspective, based on a bibliographic approach that allows describing the position of different authors regarding the proposed topic. It is important to note that the entire search was carried out through Scopus, managing to establish the parameters referenced in Figure 1.

3.1. Methodological design

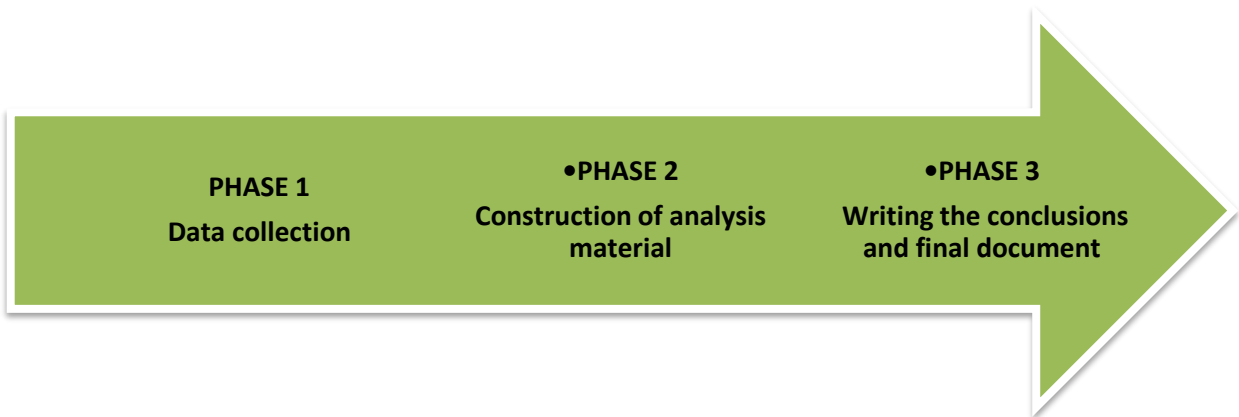


Figure 1. Methodological design

Source: Own elaboration

3.1.1 Phase 1: Data Gathering

Data collection was carried out from the Search tool on the Scopus website, where 25 publications were obtained from the choice of the following filters:

TITLE-ABS-KEY (human AND talent, AND university AND teachers, AND higher AND education) AND PUBYEAR > 2017 AND PUBYEAR < 2024

- Published documents whose study variables are related to the study of Personnel Selection, University Professors and Higher Education Institutions
- Limited to the years 2018-2023.
- Without distinction of country of origin.
- Without distinction of area of knowledge.
- Without distinction of type of publication.

3.1.2 Phase 2: Construction of analysis material

The information collected in Scopus during the previous phase is organized and then classified by graphs, figures and tables as follows:

- Co-occurrence of words.
- Year of publication.
- Country of origin of the publication.
- Area of knowledge.
- Type of publication.

3.1.3 Phase 3: Drafting of the conclusions and final document

In this phase, the analysis of the results previously yielded is carried out, resulting in the determination of conclusions and, consequently, the obtaining of the final document.

4. Results

Teacher Selection, Evaluation and Development

The selection, evaluation and development of teachers constitute a continuum; assuming these elements in isolation without taking into account the characteristics and requirements established in its selection as one of the basic benchmarks of quality and development as a result of the results of the evaluation of their performance as another a reference element, fractures and invalidates the principle of comparability inherent in the nature of the evaluation. (Ochoa, 2013)

To verify, it is necessary to evaluate, and this necessarily implies the definition of guidelines, norms, and evidence that guide the judgment that will be issued on quality as a result of the analysis of the information that accounts for the basic conditions. The use of multiple sources of information for assessment allows a greater understanding of the institution and its guidelines for the selection and evaluation of teachers and students and the development of teachers and the fulfillment of the quality purposes that it has defined as a guide for the fulfillment of its substantive teaching functions. research and extension; The validity and reliability of the qualitative and quantitative judgement that is made on each aspect depends to a large extent on the richness and plurality of the information on quality conditions, and on the relevance and viability of the improvement plans.

In addition, he states that there are different approaches and models for the selection of professors, some highly complex that value disciplinary knowledge, their skills and competencies, and others more informal that only account for operational aspects such as academic degrees, scientific production and some experience in teaching. A faculty statute or regulation includes aspects such as duties and rights of professors, selection and hiring process, type or modality of engagement, functions, evaluation (criteria and periodicity), categories, remuneration, faculty development (incentives and promotion), among other aspects or more specific provisions in the opinion of each institution. In the initial application for registration, policy documents or institutional guidelines are included with the description of their components. (Ochoa, 2013)

It is also stated that the educational context is experiencing a situation of change in the face of new international learning models such as MOOCs (Massive Open Online Courses), emerging technologies and the need for change in external (crisis) and internal (revision of teaching policies) contexts. And this change needs to value the commitment of all the actors related to training: students, teachers and managers. Training and innovation are values that all governments are committed to, as a way out of the current crisis situation and as an investment for the future. (Sein, Fidalgo, & García, 2014)

In addition, it points out that Article 67 of the Political Constitution establishes that education is a right of the individual and a public service that has a social function and that it seeks access

to knowledge, science, technology, and other cultural goods and values. It also provides that it is the responsibility of the State to regulate and exercise supreme inspection and supervision of education in order to ensure its quality, the fulfilment of its purposes and the best moral, intellectual and physical training of students; guarantee adequate coverage of the service and ensure that children and adolescents have the necessary conditions for their access to and permanence in the education system. (Departamento Administrativo de la Función Pública, 2016).

It should be noted that university teaching in the XXI has new challenges, the university needs educational innovation due to the permanent evolution of scientific and technological advances, the ubiquity of information and the incorporation of ICTs. This change depends essentially on university teaching, as the professionals of the art of teaching and the research task, whose functions and expectations complement each other and are at the same time so clear and confusing. However, the lack of understanding of this integration has not allowed the effective performance of academic activities through the teaching and learning processes. (Peralvo, Arias, & Merino, 2018)

In addition, they affirm that the challenges of university professionals who teach to model the profile that is currently required, whose characteristics are based on being a proactive, creative, innovative, motivating, researcher, facilitator and guide of knowledge. (Peralvo, Arias, & Merino, 2018)

On the other hand, he affirms that the contemporary university presents a greater interaction with society, in the attention to the demands of different audiences, which refers to a greater focus on its third mission, that is, the exchange of knowledge and technology. The university has the competence of its professors for teaching, research and university liaison and that is why the selection process of professors who will make up the staff is important. (Teleginiski, 2019)

Legal regulations:

A study of legal regulations in Colombia since Law 30 of 1992 regarding teachers of higher education institutions has the following:

Law 30 of 1992

CHAPTER III of the teaching and administrative staff. Article 70. To be appointed a professor at a state or official university, it is required to have at least a university professional degree. Their incorporation will be carried out after a public merit-based competition, the regulation of which is the responsibility of the University Higher Council. The Higher University Council will regulate the cases in which persons who demonstrate that they have made significant contributions in the field of technology, art or humanities may be exempted from the degree. Article 71. Professors may be full-time, full-time, part-time, and professorial. The dedication of the full-time professor to the university will be forty working hours per week.

In addition, the Ministry of National Education, in factor 10 of the aspects to be evaluated for the purposes of high-quality accreditation of Higher Education Institutions, enshrines the "Community of Professors" and contemplates that the institution must demonstrate the level, profile and commitment of its professors and have established the necessary conditions to make possible an adequate performance of the same in their training tasks. academic, teaching, *Nanotechnology Perceptions* Vol. 20 No. S8 (2024)

scientific, cultural and extension organizations, in coherence with the declared mission.

Decree 1330 of 2019

Article 2.5.3.2.3.2.8. Teachers. The institution must specify for the program a group of professors who, in number, pedagogical development, level of training, work experience, linkage and dedication, allow them to adequately attend to the training process, the functions of teaching, research and extension, in coherence with the modalities (face-to-face, distance, virtual, dual or other developments that combine and integrate the above modalities). the level of training of the program, the legal nature of the institution, the typology and institutional identity.

To this end, the institution must demonstrate in its program, at least, the following: a strategy for the linkage, permanence and development of professors, which includes references in relation to academic title and suitability, professional and pedagogical training, professional experience, research and/or artistic creation, in accordance with the level of training of the program, the modality(s) and the activities under their responsibility.

It will also show how it promotes the consolidation of a community of teachers, characterized by its diversity, commitment and participation for the achievement of the institutional mission

In addition, in the aspect to be evaluated number 86, on the appreciation by the members of the community, it maintains aspects on the existence and application of mechanisms for the selection, linkage and hiring of professors that tend to the consolidation of a qualified, diverse and inclusive academic community. From this perspective, the objective of the work is to illustrate the personnel selection process based on some bibliographic references and the current regulations regarding the selection and hiring of teaching staff in Higher Education Institutions in Colombia.

The university needs educational innovation due to the permanent evolution of scientific and technological advances, the ubiquity of information and the incorporation of ICTs. This change depends essentially on university teaching, as the professionals of the art of teaching and the research task, whose functions and expectations complement each other and are at the same time so clear and confusing. However, the lack of understanding of this integration has not allowed the effective performance of academic activities through the teaching and learning processes.

In addition, the contemporary university presents a greater interaction with society, in the attention to the demands of different audiences, which refers to a greater focus on its third mission, that is, the exchange of knowledge and technology. The university has the competence of its professors for teaching, research and university liaison and that is why the process of selecting the professors who will make up the staff is important

From these perspectives, the study of the different tools used in personnel selection processes in general is addressed.

Personnel Selection Tools

One of the responsibilities of the human talent area in HEIs is to carry out a strict selection process when new teaching staff is required.

This process must go through three essential sub-processes as follows: adaptation made of (Werther, Davis, & Guzmán, 2019)

1. Analysis of the Teaching Position to be Filled: The information is obtained through the detailed analysis of the job description, the specific functions in relation to teaching, research and extension, as well as the specifications of the position and the levels of performance required.
2. Teaching Staff Plans: Detailed teaching staff plans that are made in the short, medium and long term, allow the HEI to determine future vacancies with a certain degree of precision, in addition to conducting the selection process in a logical and orderly manner.
3. Potential Candidates: To form a bank of possible candidates to fill key teaching positions among which a selection process can be made.

Psychometric Tools:

Psychometric tests or psychological tests were created in order to measure people, especially the differences found between people and the reactions in different situations and scenarios (Yock et al., 1999, p. 36).

Psychometric tests are used to solve or evidence different research problems associated with the areas of social sciences, Zúñiga & Montero (2007, p. 3), explain that the tests are applied for personnel selection, psychological evaluation, performance assessment, academic aptitude, diagnosis of competencies, among others.

Hausknecht et al. (2004, p. 2), establish that there are 5 fundamental reasons to carry out psychometric tests on candidates for a position in any company:

1. The most qualified applicant(s) continue in the selection process.
2. Prevent applicants who have negative perceptions or attitudes from trying to influence others.
3. To take the suitable applicants to accept the position for which they applied.
4. Do not give rise to lawsuits or legal problems within the process (especially in companies that belong to the state)
5. Ensure that the selected applicant fits the current organizational culture and climate model.

On the other hand, (CENTRAL TEST, 2013) defines that psychometric tests were originally developed in response to a social demand and for use in school psychology. Today, measurement tools are increasingly used in the world of work, both in recruitment processes and internal evaluation, in order to better predict behaviors and performance. In particular, special attention is paid to personality and motivations, as well as reasoning skills and emotional intelligence.

In addition, it states (CENTRAL TEST, 2013) that a test can be classified as "psychometric" as long as it is standardized, has pre-established standards and has been the subject of a validation study. In this way, their calibration allows each person to be positioned in relation to their reference group, based on certain criteria such as sex or level of education. For example, a reasoning test should be calibrated by level of education, age and sex; Like
Nanotechnology Perceptions Vol. 20 No. S8 (2024)

intelligence tests for children, they are calibrated by age and sex.

The proliferation of personality and intelligence tests, accentuated by the phenomenon of the Internet, should not make us forget these quality requirements necessary to achieve an objective assessment of individuals.

Personality Tests

Personality tests For Nunn, Ally & Bernstein (1995, p. 28) personality analysis focuses on two major objects: the first is to identify what are the dominant traits of an individual in a given situation in his life; and second, what or what factors identify that pattern of their personality.

For Solorio (2014) "these tests are tools that allow us to evaluate psychological and personality traits (feelings and attitudes) of a specific individual, in order to identify the usual way of reacting to certain circumstances and types of people."

Job competency tests

A psychometric test of labor competencies, for the www.encuesta.com portal (2021),

"A job skills test is used to know the skills and aptitudes of job candidates. This tool allows the interviewer and the Human Resources team to know which worker best suits the profile and needs of the company. It can also be used with workers who are already part of a team to detect problems in the performance of their duties."

Types of Personnel Selection Tests

Personality test

Personality tests are a type of selection test that includes questions that are used to study the candidate from a psychological point of view.

Their answers will allow the HR manager to HR to know if they will fit into the team, with the company culture and if they have the necessary personality attitudes to correctly perform the job offered.

Source: <https://www.bizneo.com/blog/pruebas-de-seleccion-de-personal>

Group Dynamics

Group dynamics are group selection tests in which several candidates are summoned at the same time and presented with a specific situation. The recruiter can choose whether each one will share the solution individually and will have to convince the rest that their idea is the best. In this case, it will measure the leadership capacity and the roles played by each one.

Source: <https://www.bizneo.com/blog/pruebas-de-seleccion-de-personal>

Knowledge Tests

It consists of proposing exercises to evaluate the knowledge, skill, training and experience that the candidate has with respect to the job. For example, if the interview is for a computer programmer position, the company may propose an exercise that requires programming in the specific language that was requested in the job offer.

Source: <https://www.bizneo.com/blog/pruebas-de-seleccion-de-personal>

Personality test

Group Dynamics

Knowledge Tests

Psychotechnical Tests

Personality Assessment Test

- MBTI
- 16PF
- PRO-R PROFILE

These types of psychotechnical tests are also known as intelligence or aptitude tests. These are questionnaires that are carried out with a time limit, in which you have to select one of the options that are presented by default.

Source: <https://www.bizneo.com/blog/pruebas-de-seleccion-de-personal>

Medical Tests

Medical examinations are not mandatory and are always voluntary. They are allowed to verify the physical and mental fitness of workers for the performance of a specific task, but provided that they do not affect their privacy.

Source: <https://www.bizneo.com/blog/pruebas-de-seleccion-de-personal>

What do personnel selection tests measure?

Personnel selection tests should allow the person responsible for Human Talent Management to measure key aspects such as:

- The attitude.
- Character.
- Motivation.
- Experience.
- Competencies.
- The ability to adapt.
- Teamwork.
- Leadership.
- Intelligence.

Personality Assessment Test

(CENTRAL TEST, 2013) presents the following personality assessment tests:

MBTI: Born in 1962 from the work of Katherine Briggs and Isabel Myers, this test measures 16 different personality types, lasts 20-30 minutes and can be applied individually or collectively - Self-assessment

The test is based on Jung's theory, which identifies 4 major bipolar dimensions that influence behavior. The combination of these 4 components allows us to distinguish 16 personality types.

16PF: Developed by in 1949.

This personality questionnaire allows us to evaluate 16 personality factors that are grouped into 5 global factors: extraversion, anxiety, toughness, intransigence, independence and self-control. It has a duration: 30-40 minutes and its application can be individual or collective - Self-assessment

Regulatory data is currently only available for the United Kingdom population

PRO-R PROFILE: The Pro-R Profile test developed by Central Test in 2002 allows you to adopt a dynamic and global approach to personality

The test evaluates 12 opposing dimensions through 98 questions with a duration of less than 15 minutes.

Strengths:

- Analysis of the profile using 12 opposing dimensions.
- Control of social desirability.
- Comparison with 58 professional groups.
- Profile comparison with business roles
- Available in 10 languages: English, French, German, Arabic, Italian, Dutch, Polish, Romanian, Spanish and Russian.

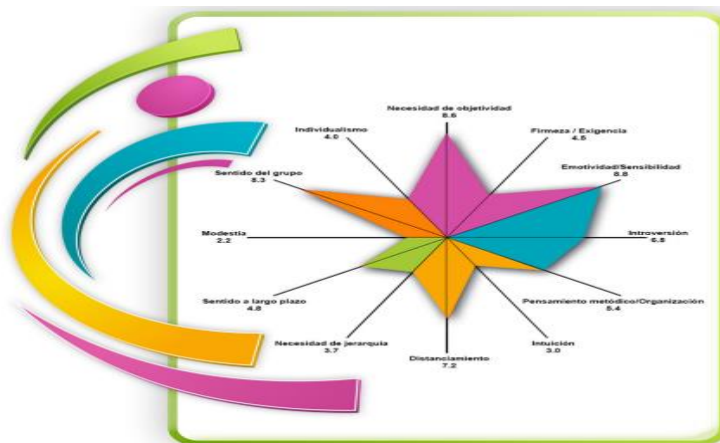


Figure 2: 12 Opposite Dimensions

Source: Taken from (CENTRAL TEST, 2013)

The application of tests in personnel selection processes is not enough if their true impact of the results is not measured for the decision to be made on whether or not to hire candidates who have gone through the process. The best decision is based on a true measurement of these results, for this there are tools such as Psychometrics.

According to (Zúñiga & Montero, 2007), for the correct process associated with the measurement of reliability, there is psychometrics that provides the theoretical and methodological tool for the measurement of constructs in the social sciences. Their correct use ensures the technical quality of the tests, whether they are personality tests, personnel selection tests, admission, knowledge or others.

In addition, they state (Zúñiga & Montero, 2007) that the theory of generalizability (G-theory) allows the reliability of a test to be measured by quantifying the importance of each of its sources of variability. Error is redefined as a condition or facet of measurement, using the generalizability coefficient as a measure to estimate reliability. This approach does not contradict the fundamental approaches of classical test theory, but can be seen as an extension of it.

They conclude (Zúñiga & Montero, 2007) that, although in many cases psychometric instruments are used to make relative decisions (model with reference to norms), the classical theory of tests being sufficient in this situation, other instances such as those involving the use of educational tests, usually require decisions based on absolute performance standards. where G-theory is a very useful tool and much more informative than the classical approach.

4.1 Word co-occurrence

Figure 3 shows the co-occurrence of keywords found in the publications identified in the Scopus database.

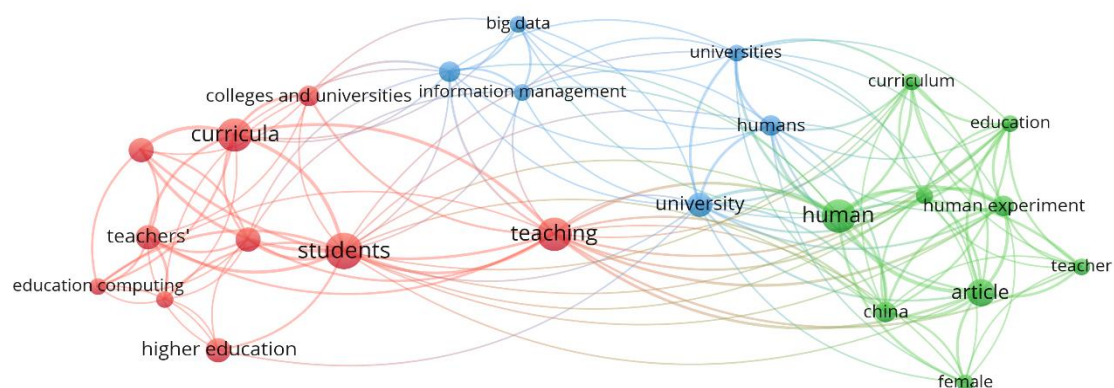


Figure 3. Word co-occurrence

Source: Own elaboration (2024); based on data exported from Scopus.

Students was the most frequently used keyword within the studies identified through the execution of Phase 1 of the Methodological Design proposed for the development of this article. Professors are among the most frequently used variables, associated with variables such as Higher Education, System Engineering, Industry 4.0, Universities, Information System, Big Data. Therefore, it is noteworthy that the selection processes of teaching staff can be a complex and crucial process for universities. That is why it is necessary for universities to manage efficient processes that guarantee that professionals are the most suitable people for their work, since the specific needs required by each educational institution and future trends in academic training must be considered. The quality of higher education depends to a large extent on the faculty and their commitment to academic excellence, so it is necessary that the section of these personnel should be considered as a priority to improve academic standards.

4.2 Distribution of scientific production by year of publication

Figure 4 shows how scientific production is distributed according to the year of publication.

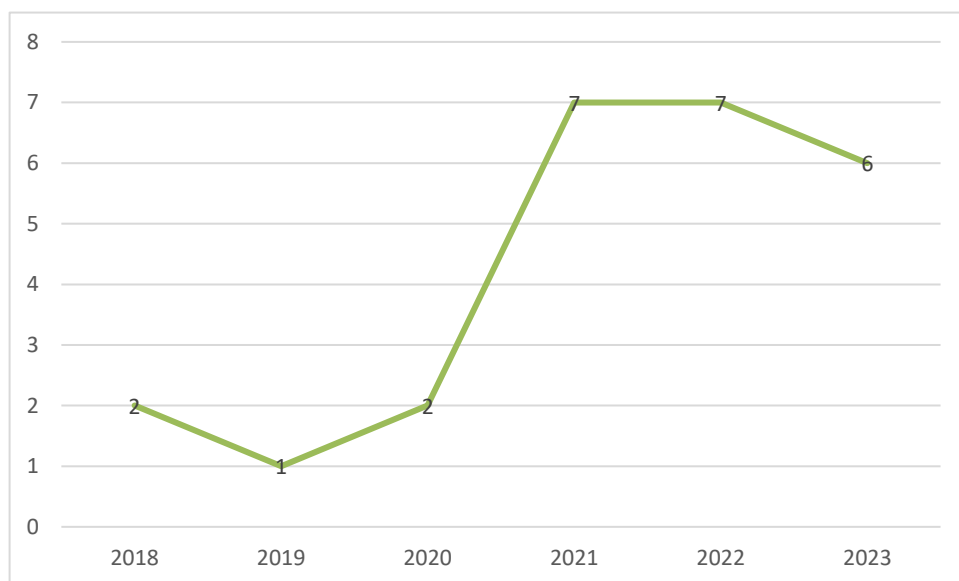


Figure 4. Distribution of scientific production by year of publication.

Source: Own elaboration (2024); based on data exported from Scopus

Among the main characteristics evidenced by the distribution of scientific production by year of publication, an increase in the number of publications registered in Scopus during the years 2021-2022 is notorious, reaching a total of 7 documents published in journals indexed on this platform. This can be explained thanks to articles such as the one entitled "The modeling of a comprehensive system of evaluation of the professional quality of university teachers based on deep learning" This article adopts the deep learning method to evaluate the integral quality of teachers, and gradually the corresponding complete system of evaluation of the integral quality of teachers is formed. Judging by the actual situation of the reasonable evaluation of university teachers, the evaluation of the psychological quality of teachers, the quality of the teaching curriculum, and the ideological and moral quality with the help of this system can

provide a good guarantee for the optimization and continuous improvement of teachers. At the same time, it can play an important and positive role in the continuous improvement of teachers and in the innovation and development of classroom teaching. From this, it is necessary to discuss the construction of the comprehensive system of quality assessment of university teaching staff.(Yang, 2022)

4.3 Distribution of scientific production by country of origin

Figure 5 shows how scientific production is distributed according to the country of origin of the institutions to which the authors are affiliated.

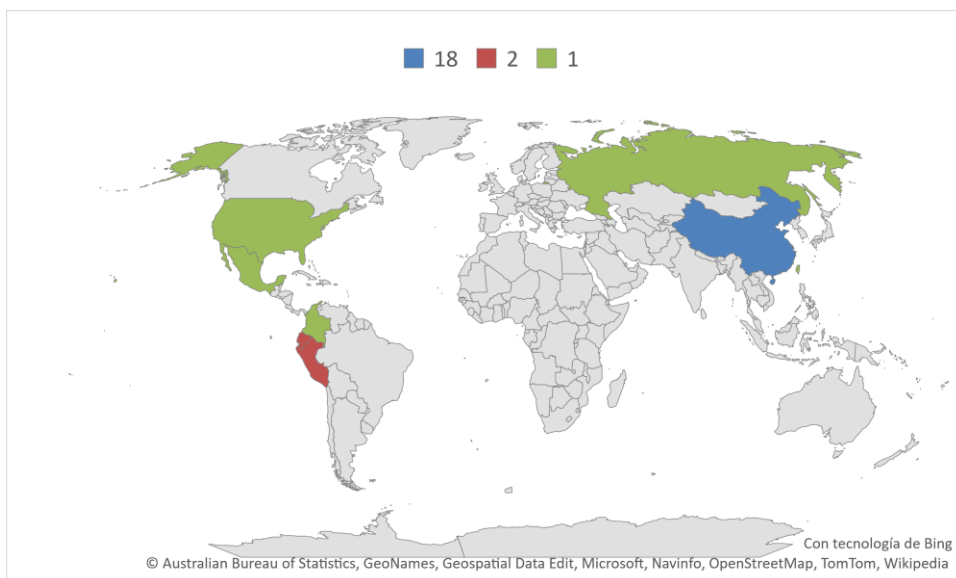


Figure 5. Distribution of scientific production by country of origin.

Source: Authors' elaboration (2024); based on data provided by Scopus.

Within the distribution of scientific production by country of origin, records from institutions were taken into account, establishing China as the country with the highest number of publications indexed in Scopus during the period 2018-2023, with a total of 18 publications in total. In second place, Ecuador with 2 scientific documents, and Colombia occupying the third place presenting to the scientific community, with a total of 1 documents among which is the article entitled "Teaching Reform and Practice of the Introduction to Biotechnology under the Concept of Ideological and Political Education in Professional Courses" The objective of this study is to provide a clear route and practical examples to achieve ideological and political education by imparting professional knowledge and achieving a "Tripartite Education". A survey was conducted to analyze the effects of teaching and the results indicated that it was practical and feasible to incorporate ideological and political education into the teaching process of a professional course by combining case teaching and classroom discussion. In total, 87% of students were very satisfied with the interactive teaching mode of classroom discussion. In addition, 81.5% of the students considered that the ideological elements coincided closely with the professional course and were integrated naturally and fluidly; and

the contents were enriched and had a strong appeal. In addition, the results of the survey also presented some defects in the explanation of the case, the use of multimedia media and the interactive communication between teacher and student. To overcome the aforementioned shortcomings, a teaching reflection was carried out and the corresponding improvements were proposed.(Chen, 2023)

4.4 Distribution of scientific production by area of knowledge

Figure 6 shows the distribution of the preparation of scientific publications based on the area of knowledge through which the different research methodologies are implemented.

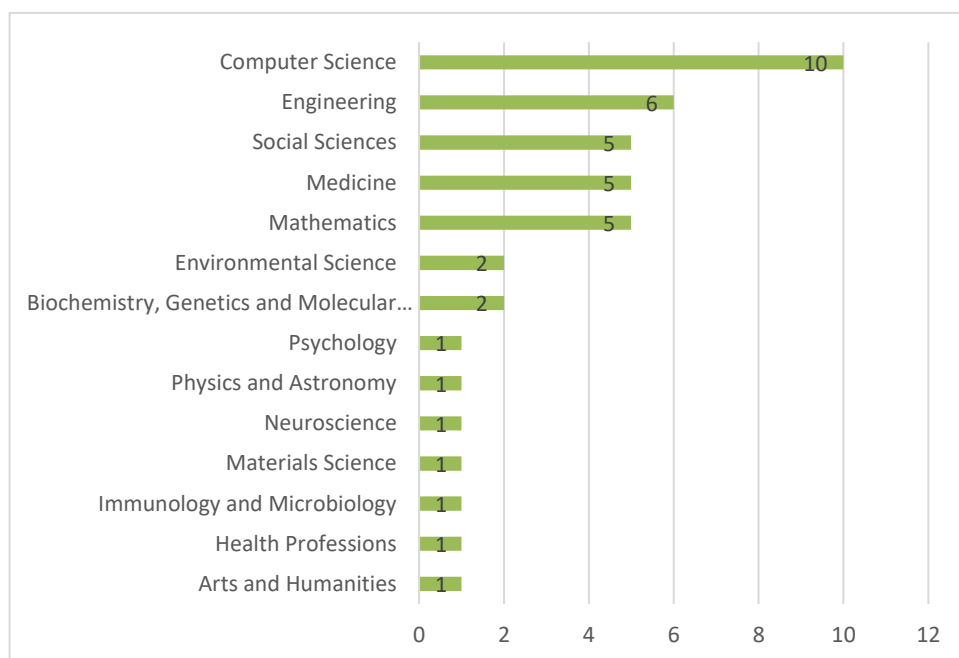


Figure 6. Distribution of scientific production by area of knowledge.

Source: Own elaboration (2024); based on data provided by Scopus

Computer Science was the area of knowledge with the highest number of publications registered in Scopus with a total of 10 documents that have based their methodologies on Personnel Selection, University Teachers and Higher Education Institutions. In second place, Engineering with 6 articles and Social Sciences in third place with 5. The above can be explained thanks to the contribution and study of different branches, the article with the greatest impact was registered by Computer Science entitled "Pedagogical leadership in the framework of human talent management: a comprehensive approach from the perspective of higher education in Ecuador" The study presented has as a general objective to study teacher leadership in the higher education system of Ecuador considering its leading role in the transformative participation in educational processes. Materials and methods. The research carried out was part of the development of the mixed or qualitative methodology. This was a two-phase sequential study. The first quantitative phase involved a questionnaire with descriptive analysis, reliability with Cronbach's alpha coefficient was applied. The qualitative

phase consisted of an interpretative documentary analysis. Results. The results showed that most of the teachers surveyed do not recognize themselves as leaders, or at least are not known as leaders in some areas of the educational processes in which they participate. Teachers have three types of leadership: instructional, distributed, and university. Discussion and conclusion. Nowadays, participation, commitment and responsibility in the area of competence of the university teacher, the educational leadership represented in the university teaching professional, is of vital importance to move from discourse to action and active participation in the transformation of realities. .(Martínez, 2021)

4.5 Type of publication

In the following graph, you will see the distribution of the bibliographic find according to the type of publication made by each of the authors found in Scopus.

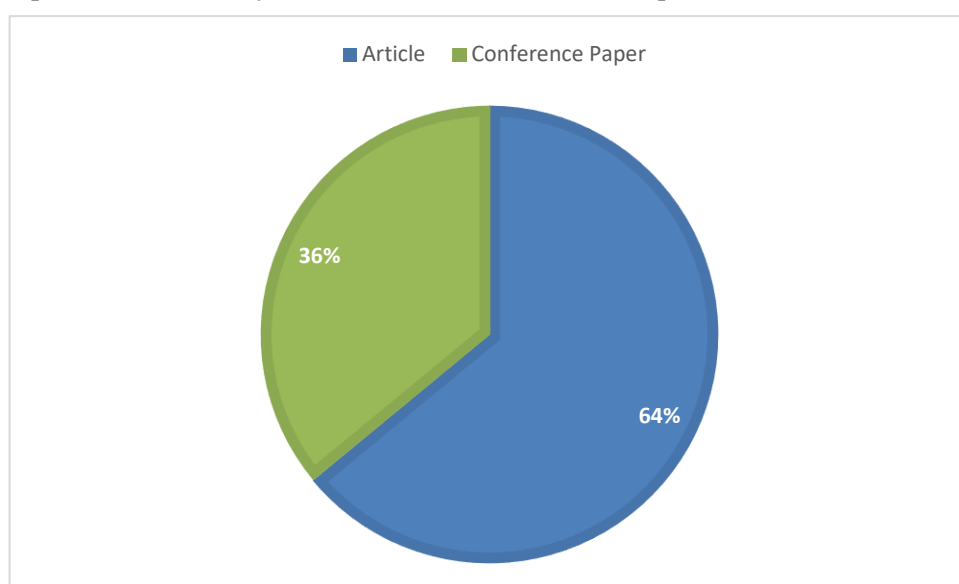


Figure 7. Type of publication.

Source: Own elaboration (2023); based on data provided by Scopus.

The type of publication most frequently used by the researchers referenced in the body of this document was the titled one with 64% of the total production identified for analysis, followed by Session Paper with 39%. Journal are part of this classification, representing 1% of the research papers published during the period 2018-2023, in journals indexed in Scopus. In this last category, the one entitled "DETERMINATION OF THE CRITERIA TO BE MEASURED TO CARRY OUT THE MANAGEMENT OF LEADERSHIP TALENT IN PERUVIAN INSTITUTIONS OF HIGHER EDUCATION" stands out. Talent Management is a decisive issue in business sciences, however when it comes to the management of faculty in higher education it is still little appreciated. taking into account that teachers are the trainers of future professionals. Within these teachers there is usually a group that stands out for their leadership, who would be the most suitable to exercise leadership positions. Currently, selection is mainly carried out empirically in higher education institutions in Peru. This article

aims to select the criteria that should be used to measure the talent of teachers with respect to the exercise of management positions within the universities and institutes of higher education in the country, or at least to identify possible institutional leaders. To do this, a combination of the Delphi method is used with the 2-tuple word linguistic calculation method. This is a new result in the context of Peruvian higher education(Perez, 2021)

5. Conclusions

Through the bibliometric analysis carried out in this research work, it was possible to establish that China was the country with the highest number of published records for the variables Personnel Selection Processes, University Professors and Higher Education Institutions. With a total of 18 publications in the Scopus database. In the same way, it was possible to establish that the application of theories framed in the area of Computer Science, Computer Science and Computer Science, Computer Science and Computer Science Sciences. An effective teacher can be an essential factor in improving academic performance. For this, it is necessary to plan for effective selection, recruitment and assignment of teachers anywhere. Updating education information management systems (EMIS) and the teacher database can help improve decision-making and take detailed action on staff who want to be hired. Combining all of these databases in education, such as human resources, finance, and planning, within an integrated system, can exponentially improve consistency and lack of unskilled personnel.

In addition, teacher selection and recruitment policies are the first link to having qualified and competent teachers, it is necessary to establish clear entry requirements for those professionals who are aspiring to teaching and wish to aspire to a higher quality process. Rather than just setting requirements with strict criteria, staff selection processes should be focused on applicants with motivation, commitment, adaptability and ensuring long-term success for universities. Soft skills, such as collaboration, assertive communication, and interpersonal skills, can be a critical indicator of a high academic record. That is why policies must eradicate clientelism or appointments based on political affinity in selection and hiring processes for the sake of transparency and the prestige of the profession.

References

1. Rodrigues, A. F. (2013). Contributions of Human Resources Management to creativity and organizational innovation.
2. Alonso, P. M. (2015). Personnel selection procedures in small and medium-sized Spanish companies, *Psychology of work and organizations*.
3. Casillas Martín, S. C. (2015). University Professor's Evaluation: The Higher the Professional Category, the Better the Professor?
4. Chen, Y.-N. W.-Y.-M. (2023). Teaching Reform and Practice of the Introduction to Biotechnology under the Concept of Ideological and Political Education in Professional Courses. CHINA.
5. Escudero, J. (2010). selection and evaluation of teachers, *Rev. Interuniversitaria de Formación del Profesorado*.
6. Lotta, G. S. (2002). Performance evaluation in public areas: Martínez, M. F. (2021). Pedagogical leadership in the framework of human talent management: a comprehensive approach from the

- perspective of higher education in Ecuador. ECUADOR.
7. Pérez, T. U. (2021). DETERMINATION OF THE CRITERIA TO BE MEASURED TO CARRY OUT THE MANAGEMENT OF LEADERSHIP TALENT IN PERUVIAN INSTITUTIONS OF HIGHER EDUCATION. PERU.
8. Santelices, M. y. (2015). Importance of the characteristics of the teacher and the school in teaching quality: An approach from the Item Response Theory, Pedagogical Studies, etc.
9. Thartan, O. y. (2015). Opinions of teacher candidates on the selection of public personnel.
10. Yang, X. (2022). The modeling of a comprehensive system of evaluation of the professional quality of university teachers based on deep learning. CHINA.
11. Acero, A. E., Payan-Durán, L. F., & Espinosa-Díaz, E. E. (2017). Preparing industrial engineers through project-based learning using ICT: An exploratory analysis. Paper presented at the 2017 Research in Engineering Education Symposium, REES 2017, Retrieved from www.scopus.com
12. Adelabu, F. M., & Alex, J. (2022). Online baseline assessment in mathematics: Initial teacher education entry-level student performance. *Academic Journal of Interdisciplinary Studies*, 11(1), 68-79. DOI:10.36941/AJIS-2022-0006
13. Adinda, D., & Mohib, N. (2020). Teaching and instructional design approaches to enhance students' self-directed learning in blended learning environments. *Electronic Journal of e-Learning*, 18(2), 162-174. doi:10.34190/EJEL.20.18.2.005
14. Adisa, R. S., Adisa, M. Y., Usman, T., & Barau, A. A. (2018). A study of computer-based ICT competency in the social science sub-sector of the nigerian higher education system. Paper presented at the 21st Saudi Computer Society National Computer Conference, NCC 2018, doi:10.1109/NCG.2018.8593189 Retrieved from www.scopus.com
15. Adriano, R. C., & Cruz, M. M. S. (2020). gradsCOOL: A learning management system for bulacan state university graduate school. Paper presented at the Proceedings of 2019 the 9th International Workshop on Computer Science and Engineering, WCSE 2019, 59-64. Retrieved from www.scopus.com
16. Afolabi, A., Ojelabi, R., Tunji-Olayeni, P., Omuh, I., & Oyeyipo, O. (2019). Critical factors influencing building graduates' employability in a developing economy. Paper presented at the ISEC 2019 - 10th International Structural Engineering and Construction Conference, doi:10.14455/isec.res.2019.53 Retrieved from www.scopus.com
17. Afrad, M. S. I., & Barau, A. A. (2019). Employability of bachelor of science (agriculture) graduates of bangabandhu sheikh mujibur rahman agricultural university. *Journal of Technical Education and Training*, 11(2), 68-78. doi:10.30880/jtet.2019.11.02.007
18. Agarwal, N., Gupta, R., & Kumar, P. (2022). Role of ICT in imparting quality education and curbing cyber security risks during COVID-19 pandemic doi:10.1007/978-981-16-8012-0_26 Retrieved from www.scopus.com
19. Agbenyegah, A. T., & Dlamini, B. I. (2019). Investigating the challenges of e-learning in a developing institution of higher learning: A hypothetical approach. *Journal of Applied Business Research*, 35(3), 83-96. doi:10.19030/jabr.v35i3.10303
20. Aggarwal, D. (2018). Leveraging the power of cloud computing for technology enhanced learning (TEL). Paper presented at the 2018 7th International Conference on Reliability, Infocom Technologies and Optimization: Trends and Future Directions, ICRITO 2018, 391-396. doi:10.1109/ICRITO.2018.8748538 Retrieved from www.scopus.com
21. Aggarwal, R. (2017). Economics of e-learning in higher education: The indian case. *Prabandhan: Indian Journal of Management*, 10(6), 40-48. DOI:10.17010/PIJOM/2017/V10I6/115374
22. Agustina, M., & Purnawarman, P. (2020). Investigating learners' satisfaction utilizing google classroom as online formative feedback tool. Paper presented at the Proceedings - 2020 6th International Conference on Education and Technology, ICET 2020, 26-31. doi:10.1109/ICET51153.2020.9276616 Retrieved from www.scopus.com
23. Ahmad, A., Danjuma, Y. N., & Hamani, A. A. (2022). The influential factors for ICT adoption:

- Survey of teachers in the higher educational institutions in bauchi state. Paper presented at the Proceedings of the International Conference on Computer and Applications, ICCA 2022 - Proceedings, doi:10.1109/ICCA56443.2022.10039640 Retrieved from www.scopus.com
24. Ahmad, R., Nagasundram, U., Sharif, M. N. M., Yaacob, Y., Mahmud, M. M., Ishak, N. S., . . . Ibrahim, I. (2022). Information and communications technology (ICT) as a teaching and learning tool: A study of students' readiness and satisfaction. *International Journal of Learning, Teaching and Educational Research*, 21(10), 381-394. doi:10.26803/ijlter.21.10.21
 25. Ahmed, T. M., & Seliaman, M. E. (2017). Investigating the adoption and impact of e-learning in KSA: Prince sattam bin abdulaziz university case study. *Journal of Theoretical and Applied Information Technology*, 95(11), 2610-2618. Retrieved from www.scopus.com
 26. Aittola, H., & Ursin, J. (2019). Finnish adult students' perspectives on short-cycle study programmes: Motives and evaluations. *Higher Education Research and Development*, 38(2), 205-218. doi:10.1080/07294360.2018.1515182
 27. Akram, H., Aslam, S., Saleem, A., & Parveen, K. (2021). THE CHALLENGES OF ONLINE TEACHING IN COVID-19 PANDEMIC: A CASE STUDY OF PUBLIC UNIVERSITIES IN. *Journal of Information Technology Education: Research*, 20, 263-282. DOI:10.28945/4784
 28. Al Chibani, W. (2019). Investigating the efficiency of implementing active learning strategies in higher education courses in lebanon: A multiple case study. Paper presented at the IMSCI 2019 - 13th International Multi-Conference on Society, Cybernetics and Informatics, Proceedings, , 2 56-61. Retrieved from www.scopus.com
 29. Al Youssef, I. Y. (2020). The effect of employing flipped classroom on the development of higher-order thinking skills and self-learning in educational technology students at king faisal university. *Scientific Journal of King Faisal University*, 21(2), 153-160. doi:10.37575/h/edu/2114
 30. Alajmi, Q., Al-Nuaimy, L. A., Arul Jose, G. J., Mastan, M., & Al-Sharafi, M. A. (2019). Cloud computing services and its effect on tertiary education: Using google classroom. Paper presented at the 2019 7th International Conference on ICT and Accessibility, ICTA 2019, doi:10.1109/ICTA49490.2019.9144797 Retrieved from www.scopus.com
 31. Alammary, A., Alshaikh, M., & Pratama, A. R. (2022). Awareness of security and privacy settings in video conferencing apps among faculty during the COVID-19 pandemic. *PeerJ Computer Science*, 8 doi:10.7717/peerj-cs.1021
 32. Alamoudi, A. A. (2020). Aspectual analysis of digital transformation and new academic professionals: A case of saudi arabia. *Fostering communication and learning with underutilized technologies in higher education* (pp. 108-122) doi:10.4018/978-1-7998-4846-2.ch008 Retrieved from www.scopus.com
 33. Alasmari, T. M. (2020). Can mobile learning technology close the gap caused by gender segregation in the saudi educational institutions? *Journal of Information Technology Education: Research*, 19, 655-670. DOI:10.28945/4634
 34. Aldiab, A., Chowdhury, H., Kootsookos, A., Alam, F., & Allhibi, H. (2019). Utilization of learning management systems (LMSs) in higher education system: A case review for saudi arabia. Paper presented at the Energy Procedia, , 160 731-737. doi:10.1016/j.egypro.2019.02.186 Retrieved from www.scopus.com
 35. Aleksic-Maslac, K., Rasic, M., & Vranesic, P. (2018). Influence of gamification on student motivation in the educational process in courses of different fields. Paper presented at the 2018 41st International Convention on Information and Communication Technology, Electronics and Microelectronics, MIPRO 2018 - Proceedings, 783-787. doi:10.23919/MIPRO.2018.8400145 Retrieved from www.scopus.com
 36. Aleynikova, D. V. (2021). Teaching lawyer intercultural professional communication during the COVID-19 pandemic. *XLinguae*, 14(1), 170-181. doi:10.18355/XL.2021.14.01.14
 37. Alfallaj, F. S. S. (2020). Non-digital gamification of the english as foreign language classroom:

- Developing the tools at home. *Asian ESP Journal*, 16(52), 131-152. Retrieved from www.scopus.com
38. Al-Ghurbani, A. M., Jazim, F., Abdulrab, M., Al-Mamary, Y. H. S., & Khan, I. (2022). The impact of internal factors on the use of technology in higher education in Saudi Arabia during the COVID-19 pandemic. *Human Systems Management*, 41(2), 283-302. doi:10.3233/HSM-211219
39. Alharthi, A., Alassafi, M. O., Walters, R. J., & Wills, G. B. (2017). An exploratory study for investigating the critical success factors for cloud migration in the Saudi Arabian higher education context. *Telematics and Informatics*, 34(2), 664-678. doi:10.1016/j.tele.2016.10.008
40. Alhassan, R. K., Ayanore, M. A., Diekuu, J. -, Prempeh, E. B. A., & Donkor, E. S. (2021). Leveraging e-learning technology to enhance pre-service training for healthcare trainees in Ghana: Evidence from a pilot project and pointers to policy reforms. *BMC Health Services Research*, 21(1) doi:10.1186/s12913-021-07224-3
41. Ali, A. (2020). Cloud computing adoption at higher educational institutions in the KSA for sustainable development. *International Journal of Advanced Computer Science and Applications*, 11(3), 413-419. Retrieved from www.scopus.com
42. Ali, A., & Bhasin, J. (2020). A model of information system interventions for e-learning: An empirical analysis of information system interventions in e-learner perceived satisfaction doi:10.1007/978-3-030-29407-6_66 Retrieved from www.scopus.com
43. Al-Ibrahim, A. (2019). Deaf and hard of hearing students' perceptions of the flipped classroom strategy in an undergraduate education course. *European Journal of Educational Research*, 8(1), 325-336. doi:10.12973/eu-jer.8.1.325
44. Almajhaddi, A., & Almutairi, S. (2017). Promote the process of higher education based on social media as a creative ICT tools. Paper presented at the Communication, Management and Information Technology - Proceedings of the International Conference on Communication, Management and Information Technology, ICCMIT 2016, 405-415. Retrieved from www.scopus.com
45. Almansa, I. R. (2021). Graphic medicine and translation: Acquisition of specialized knowledge and foreign language by German-Spanish subtitling of videographies on vaccinology. [GRAPHIC MEDICINE AND TRANSLATION: ACQUISITION OF SPECIALIZED KNOWLEDGE AND FOREIGN LANGUAGE THROUGH GERMAN-SPANISH SUBTITLING OF VIDEOGRAPHIES ON VACCINOLOGY] *Modern Languages*, (58), 155-189. Retrieved from www.scopus.com
46. Almeida, A. C., & Carvalho, C. (2022). The adequacy of academic curricula for digital transformation in the accounting education. Paper presented at the Iberian Conference on Information Systems and Technologies, CISTI, , 2022-June doi:10.23919/CISTI54924.2022.9820286 Retrieved from www.scopus.com
47. Almeida, R., Pessoa, T., & Gomes, A. (2019). Learning to think like a trainer: Bringing scratch for educational sciences professional's formation. Paper presented at the Proceedings - Frontiers in Education Conference, FIE, , 2018-October doi:10.1109/FIE.2018.8658534 Retrieved from www.scopus.com
48. Almulla, M. A. (2022). Developing a validated instrument to measure students' active learning and actual use of information and communication technologies for learning in Saudi Arabia's higher education. *Frontiers in Psychology*, 13 doi:10.3389/fpsyg.2022.915087
49. Alonso-García, S., Aznar-Díaz, I., Cáceres-Reche, M. -, Trujillo-Torres, J. -, & Romero-Rodríguez, J. -. (2019). Systematic review of good teaching practices with ICT in Spanish higher education trends and challenges for sustainability. *Sustainability (Switzerland)*, 11(24) doi:10.3390/su11247150
50. Alqaidoom, H., & Shah, A. (2020). Digital literacy of educators and their attitude towards MOOC platform in Arab world. Paper presented at the 7th IEEE International Conference on

- Engineering Technologies and Applied Sciences, ICETAS 2020, doi:10.1109/ICETAS51660.2020.9484170 Retrieved from www.scopus.com
51. Al-Sobaihi, K. A., & Agrawal, P. (2017). Tools of ict in teaching and learning at public and private universities of yemen: A comparative study. Paper presented at the 2017 2nd International Conference for Convergence in Technology, I2CT 2017, , 2017-January 614-619. doi:10.1109/I2CT.2017.8226203 Retrieved from www.scopus.com
52. Álvarez-Rodríguez, M. D., Bellido-Márquez, M. D. C., & Atencia-Barrero, P. (2019). Teaching though ICT in obligatory secondary education. analysis of online teaching tools. [Artistic teaching through ICT in Compulsory Secondary Education. Analysis of Online Teaching Tools] *Journal of Distance Education*, 1(59) doi:10.6018/red/59/05
53. Andekina, R., & Anartayeva, A. (2022). Problems and perspectives of ICT in higher education institutions of kazakhstan. Paper presented at the SIST 2022 - 2022 International Conference on Smart Information Systems and Technologies, Proceedings, doi:10.1109/SIST54437.2022.9945732 Retrieved from www.scopus.com
54. Andrés, G. Á. (2022). Gamification project in japanese higher education for spanish as a foreign language. *Journal of Higher Education Theory and Practice*, 22(2), 255-273. doi:10.33423/jhetp.v22i2.5063
55. Angelva, J., Tepsa, T., & Mielikäinen, M. (2017). Team teaching experiences in engineering education a project-based learning approach. Paper presented at the Proceedings of the 45th SEFI Annual Conference 2017 - Education Excellence for Sustainability, SEFI 2017, 1182-1189. Retrieved from www.scopus.com
56. Anggaraini Purwaningtyas, D., Meyliana, Nizar Hidayanto, A., & Prabowo, H. (2020). Success factors in flipped learning in higher education: A systematic literature review. Paper presented at the Proceedings - 2nd International Conference on Informatics, Multimedia, Cyber, and Information System, ICIMCIS 2020, 231-235. doi:10.1109/ICIMCIS51567.2020.9354314 Retrieved from www.scopus.com
57. Ortiz, D. (2023, May 11). Artificial intelligence must be urgently incorporated into classrooms. *El Comercio* Retrieved from <https://www.proquest.com/newspapers/la-inteligencia-artificial-debe-incorporarse/docview/2812995194/se-2>
58. HOLROD. (2023). 'Technology helps connect with human talent': María Esteve, partner and general manager of the Andean region at LLYC, explains the conclusions of a study on labour trends. a challenge is to meet the expectations of generation Z. *Portfolio*, Retrieved from <https://www.proquest.com/trade-journals/la-tecnología-ayuda-conectar-con-el-talento/docview/2777343498/se-2>