Original article

Generic competencies of university professionals prioritized by the labor sector: a referential study

Competencias genéricas de los profesionales universitarios priorizadas por el sector laboral: estudio referencial

Competências genéricas dos profissionais universitários priorizadas pelo setor laboral: estudo de referência

Aydeé Rivera de Parada[1] 🆔 0000-0002-1846-7157 @ aydee.parada.2020@gmail.com

Débora Mainegra Fernández[2] 🆔 0000-0003-0811-0629 @ debora.mainegra@nauta.com.cu

Elia Elizabeth Pineda Rivas[1] 🆔 0000-0002-1303-9591 @ elia.pineda@uees.edu.sv

[1] Evangelical University of El Salvador. El Salvador.

[2] University of Pinar del Río "Hermanos Saíz Montes de Oca". Pinar del Río, Cuba.

ABSTRACT

The article presents the results of a study on the path taken from the recognition of generic competencies as an entity independent of the specific competencies to be developed by a professional, given their transversal nature to any area of knowledge, establishing the distinction of those preferred by employers in the selection of personnel, so its objective is to socialize a theoretical study on the generic competencies prioritized by the labor sector in the university professionals it receives. For this purpose, theoretical research methods such as literature review, historical-logical, analysis-synthesis and induction-deduction were used, as well as empirical methods such as documentary analysis, together with the open code manager JabRef, multiplatform that operates under the BibText format. The bibliographic review guide and the documentary analysis guide were used as instruments. The main results indicate that the mastery of generic competencies by young professionals entering the labor market is insufficient, especially in nations with fewer resources. It

is concluded that it is essential to achieve the interrelation between employers and academia to determine the generic competencies required by each sector and type of property, in order to train the professionals needed in the immediate future.

Keywords: competency; job performance; generic competencies in sustainability; university-production relationship.

RESUMEN

El artículo presenta los resultados de un estudio acerca del camino transitado desde el reconocimiento de las competencias genéricas como una entidad independiente de las competencias específicas a desarrollar por un profesional, dado su carácter transversal a cualquier área del conocimiento, estableciendo la distinción de aquellas que prefieren los empleadores en la selección del personal, por lo que su objetivo es socializar un estudio teórico sobre las competencias genéricas que prioriza el sector laboral en los profesionales universitarios que recibe. Para ello se emplearon métodos de la investigación teórica como el de revisión bibliográfica, el histórico-lógico, el análisis-síntesis y la inducción-deducción, así como métodos empíricos como el análisis documental, unidos al gestor de código abierto JabRef, multiplataforma que opera bajo el formato BibText. Como instrumentos se emplearon la Guía de revisión bibliográfica y la Guía de análisis documental. Los principales resultados indican que es insuficiente el dominio de competencias genéricas por los jóvenes profesionales que acceden al mercado laboral, especialmente en las naciones con menos recursos. Se concluye que es imprescindible el logro de la interrelación entre los empleadores y la academia para la determinación de las competencias genéricas requeridas por cada sector y tipo de propiedad, a fin de formar los profesionales que necesita el futuro inmediato.

Palabras clave: competencia; desempeño laboral; competencias genéricas en sostenibilidad; relación universidad-producción.

RESUMO

O artigo apresenta os resultados de um estudo sobre o caminho percorrido desde o reconhecimento das competências genéricas como entidade independente, dada a sua transversalidade a qualquer área do conhecimento, das competências específicas a desenvolver por um profissional,

estabelecendo a distinção de aquelas que os empregadores preferem na seleção de pessoal, por isso tem como objetivo socializar um estudo teórico sobre as competências genéricas que o setor trabalhista prioriza nos profissionais universitários que recebe. Para isso, foram utilizados métodos teóricos de pesquisa, como revisão bibliográfica, histórico-lógico, análise-síntese e indução-dedução, além de métodos empíricos, como análise documental, em conjunto com o gerenciador de código aberto JabRef, multiplataforma que opera sob o Formato BibText. Foram utilizados como instrumentos o guia de revisão bibliográfica e o guia de análise documental. Os principais resultados indicam que o domínio de competências genéricas pelos jovens profissionais que entram no mercado de trabalho é insuficiente, especialmente em nações com menos recursos. Conclui-se que é fundamental conseguir a inter-relação entre empregadores e academia para determinar as competências genéricas exigidas por cada setor e forma de propriedade, a fim de formar os profissionais necessários para o futuro imediato.

Palavras-chave: competição; desempenho profissional; competências genéricas em sustentabilidade; relação universidade-produção.

INTRODUCTION

The concept of competencies originated in the business sector, where its definition referred to know-how. However, little by little it was transferred to the academy, precisely in the search for a professional training that responds to the labor market.

Generic competencies are also known as basic or transversal competencies because they affect all spheres of a person's life, contributing effectively to his or her performance as a citizen, as a professional and, therefore, enabling his or her active participation in the political, economic, social and cultural development of the context in which he or she is integrated and of the country in general.

Generic competences identify shared elements, common to any degree, such as the ability to learn, to make decisions, to design projects, interpersonal skills, etc. These are complemented by those related to each area of study, which are crucial for any degree and refer to the specificity of a field of study (Tuning Latin America, 2007).

The Tunning Project (2007), aimed at the European context, proposed thirty generic competencies that highlighted with an asterisk the priority competencies for employers and recent graduates.

Translated from the original in Spanish

- **Instrumental competencies:** Capacity for analysis and synthesis*. Capacity to organize and plan. General basic knowledge*. Foundation of basic knowledge of the profession*. Oral and written communication in mother tongue*. Knowledge of a second language*. Fundamental computer skills*. Information management skills: retrieving and analyzing information from different sources. Problem solving. Decision making*.
- **Interpersonal skills:** Ability to criticize and self-criticize*. Teamwork*. Interpersonal skills*. Ability to work in an interdisciplinary team. Ability to communicate with experts from other fields. Sensitivity to diversity and multiculturalism. Ability to work in an international context. Ethical commitments*.
- **Systemic competencies:** Ability to put knowledge into practice*. Research skills*. Ability to learn. Ability to adapt to new situations. Ability to generate new ideas (creativity)*. Leadership skills. Understanding of the cultures and customs of other countries. Ability to work autonomously. Ability to design and manage projects.

Initiative and entrepreneurial spirit. Concern for quality. Will to succeed.

This project provided the following list of generic competencies for Latin America (Tuning Latin America, 2007):

1. Capacity of abstraction, analysis and synthesis
2. Ability to apply knowledge in practice
3. Ability to organize and plan time
4. Knowledge of the field of study and the profession
5. Social responsibility and citizen commitment
6. Oral and written communication skills
7. Ability to communicate in a second language
8. Skills in the use of information and communication technologies
9. Research capacity
10. Ability to learn and update constantly
11. Ability to search for, process and analyze information from diverse sources
12. Critical and self-critical capacity
13. Ability to act in new situations
14. Creative capacity
15. Ability to identify, pose and solve problems

16. Ability to make decisions

17. Ability to work as part of a team

18. Interpersonal skills

19. Ability to motivate and lead towards common goals

20. Commitment to environmental preservation

21. Commitment to its socio-cultural environment

22. Appreciation and respect for diversity and multiculturalism

23. Ability to work in international contexts

24. Ability to work autonomously

25. Ability to formulate and manage projects

26. Ethical commitment

27. Commitment to quality

On the other hand, the demands of the labor market have experienced a trend towards the selection of personnel with adaptive flexibility to a broad spectrum of competencies that allow them to be inserted in diverse scenarios, whose variability may be geographic, linguistic, idiosyncratic, technological, social, religious, or other.

This is because the professional performance of graduates depends not only on the mastery of specific competencies that are worked on in a particular and intentional way in each career and subject, but also on the development of generic competencies, which is not always achieved with formal teaching-learning methods and structures (Álvarez Benítez & Asensio Muñoz, 2020).

In the context of globalization, where information technologies are eliminating borders, the challenge for higher education is to advance towards comprehensive training, relevant to the new requirements of the labor market and society, which demand, among other aspects, the ability to perform in a highly dynamic and competitive environment, where the purely economic orientation has had to give way to the development of new objectives in the field of social responsibility.

Thus, it is agreed with Navarro et al. (2017) that fostering the knowledge, attitudes and skills of individuals so that they can work in environments different from their own, has become an important concern in contemporary society, as has the incorporation of Social Responsibility in the training of people and in business practices, since it is recognized that to successfully face the challenges imposed by this new model of complex society, a broader anthropological conception of the individual

(cultural, historical, political and natural) must be considered, in which the development of the person is distinguished, in an order of priority, from the professional.

Numerous studies on the subject have been documented in recent scientific literature. For example, in Chile it was shown that, although there is coincidence between employers and graduates regarding the fundamental generic competencies, there is a higher valuation (relative importance) on the part of employers for those linked to managerial and personal effectiveness competencies (systemic and interpersonal); while in the statements of graduates there is evidence of deficiencies in the development of generic competencies such as the ability to apply knowledge in practice, interpersonal skills and autonomous work (Araya Pizarro, 2019).

This circumstance highlights, among others, the need for research in relation to the new demands of the labor market to the academy with respect to the generic competencies that should be privileged in university curricula in correspondence with the diversity of contexts, sectors and property typology of the employment opportunities that their graduates will have. Practice reveals an apparent divorce between need and reality in this crucial aspect, which determines the professional success of individuals and the profitability of the company.

On the other hand, there is a lack of sufficient information on the subject in the Central American and Caribbean region, especially of a documentary nature, that would allow the foundation of research that covers the practical reality. Hence, the objective of this article is to socialize a theoretical study on the generic competencies prioritized by the labor sector in the university professionals it receives.

MATERIALS AND METHODS

The referential study presented here was developed from the application of theoretical research methods such as literature review, historical-logical, analysis-synthesis and induction-deduction, as well as empirical methods such as documentary analysis, which allowed synthesizing the foundations and theoretical bases of the research project Generic competencies of university professionals prioritized by employers in the region of Central America and the Caribbean, in which the Universidad Evangélica de El Salvador has been working, a partial result of which is presented in this article.

The technique used was the open source document manager JabRef, multiplatform that operates under the BibText format, which allows customization and adaptability to different information sources.

The instruments used were the Bibliographic Review Guide and the Documentary Analysis Guide.

The methodology for data collection consisted of three phases:

1. Selection of the documentation in different media to be reviewed and establishment of the limits of the bibliographic review (which documents will be used in the research).
2. Organization of the information: This was done with the JabRef document manager, in order to establish an order of consultation and control of the documentation by title, author, document and contribution; in addition, it easily generates the bibliography for the final report.
3. Analysis of the information: Using the methods of theoretical research, analysis-synthesis and induction-deduction, and based on the reflective reading of each of the selected materials, the main ideas, inferences and key concepts were extracted regarding generic competencies, their selection, the current lists used by Latin American universities, and government oversight in relation to their training and development in universities, in conjunction with the labor sector.

RESULTS AND DISCUSSION

Central America and the Caribbean is a region with a certain economic backwardness, but characterized by its cultural and socio-demographic richness. In this context, job search and personnel selection are fundamental processes for both employers and workers.

In order to enter the labor market in this region, it is essential to understand which generic competencies employers prioritize in their candidates. University education, over time, has focused on training professionals with a successful performance in their degree profile, without paying special attention to the so-called transversal or generic competencies, which has resulted in difficulties in the performance of many university graduates.

Faced with the constant changes in daily life and in the workplace, with the irruption of technologies, some institutions have begun to worry about the limited possibilities of university graduates to

compete successfully for a job, because in this process of transformation only those who are able to innovate and adapt will benefit, as the theorists of technological Darwinism point out.

The future of professional employment is considered to be in jobs that do not exist today, in industries that use new technologies and that to handle them will have to be surrounded by experts of autonomous and adaptable learning, responsible people; it is also noted that even living will take place in planetary conditions that no human being has experienced, as a threat to life itself. Gómez Gamero (2019) considered that people have become indifferent to others, that the natural impulse to help others is diminishing and that ethical norms are in crisis, because what prevails now is hard competition.

Beyond the technical competencies, this paper aims to approach from a scientific perspective the demands referred to the generic competencies required in the world of work for young people who wish to practice their profession in their own country or abroad, with the certainty that a university degree, by itself, does not guarantee an effective and efficient performance.

The Real Academia Española de la Lengua defines competence, in its second meaning, as expertise, aptitude, suitability to do something or intervene in a given matter (Rae, 2020).

The Organization for Economic Cooperation and Development (OECD) considers that, despite efforts to distinguish competencies from skills, these terms are used indistinctly in practice because there are coincidences in their content and states that, in view of the multiplicity of terms, it has maintained a pragmatic approach to their conception. Finally, to refer to generic competencies it states that they are "...the ability or capacity of an agent to act appropriately in a given situation, both involve the application of knowledge (explicit and/or tacit), the use of tools, cognitive, strategies and practical routines, both involve beliefs, dispositions and values" (OECD, 2019, p. 17).

For the particular purposes for which these are required, classifications are also made, since, as Crespí and García Ramos (2021) state, it can be talked about two types of competencies: technical or specific ones, specific to a subject, degree, field of knowledge or profession, and transversal or generic ones, common to different areas of knowledge, necessary, in general, for life, and as examples of the latter, they point out leadership, initiative, planning, problem solving, the ability to communicate and work cooperatively, among others.

Pugh and Lozano Rodríguez (2019) point out that a variety of terms have been used interchangeably to refer to generic competencies, such as: key competencies, transversal competencies or transferable skills, generic competencies or generic skills, core skills, essential skills, 21st-century skills, professional skills, graduate capabilities, employability skills or employability skills, among others (Cotronei Baird, 2020; Pugh & Lozano Rodríguez, 2019).

In the labor space, competences play a decisive role for the performance of a job, especially those of a transversal or generic nature, without this having given rise to a basis for exchange between universities and the productive sector to clearly determine the demands on the academy established by the latter, Crespí and García Ramos (2021) recognize this when they state that, in this sense, there is a certain incoherence between what is proposed by the labor sector in relation to the reality of current university curricula.

The Tuning Project (2007) makes reference to this, recognizing the formation of generic competencies as an essential aspect for graduates in their future responsibilities as citizens and professionals; however, in general, these institutions do not have specific compulsory subjects for their development.

In the case of generic competency training, universities generally employ three models (Crespí, 2020):

- That the technical subjects themselves develop the generic competencies. This implies that teachers specialized in the development of technical competencies also assume the development of generic competencies, but in a vehicular manner. In other words, generic competencies are developed as a means and not as an end in themselves.
- That it is the optional subjects that develop the generic competencies. In this case, it is not possible to ensure that all students receive this training.
- That it is the complementary formative subjects that develop the generic competencies. In this case, it cannot be affirmed that all students receive the training.

As explained above, generic competencies are divided into instrumental, personal and systemic competencies.

Instrumental, according to Sierra Alonso et al. (2011), are divided into methodological, cognitive and technological, which in turn are broken down as follows:

Methodological:

- Capacity for analysis and synthesis
- Ability to plan and organize
- Problem solving
- Decision making

Cognitive:

- Basic general knowledge
- Basic knowledge of the profession

Technological:

- Basic computer skills
- Information management skills

And language skills:

- Oral and written communication in their own language
- Knowledge of a second language

The authors themselves present the following structure for personal competencies (Sierra Alonso et al., 2011):

- Critical and self-critical capacity
- Teamwork
- Interpersonal skills
- Ability to work in an interdisciplinary team
- Ability to communicate with experts in other areas
- Appreciation of diversity and multiculturalism
- Ability to work in an international context
- Ethical commitment

With respect to systemic generic competencies, Sierra Alonso et al. (2011) consider that they are:

- Ability to apply knowledge in practice
- Research skills
- Ability to learn
- Ability to adapt to new situations
- Ability to generate new ideas
- Leadership
- Knowledge of the culture and customs of other countries
- Ability to work autonomously
- Project design and management
- Initiative and entrepreneurship
- Concern for quality
- Motivation for achievement

However, it is necessary to distinguish between desirable generic competencies and those that are essential for the successful performance of a given work activity.

As a result of a study by the National Agency for Quality Assessment and Accreditation of Spain, with the aim of selecting the competencies prioritized by the scientific-technological labor sector in that country, three generic competencies were isolated as the most highly valued in each of the categories, which together yield a total of nine essential competencies. These were the following:

- The following were selected as Instrumental: Analysis and synthesis skills, problem solving, and organization and planning skills
- In the Personal: Ethical commitment, Teamwork and Critical and self-critical capacity
- As part of the Systemic ones, the following were highlighted: Ability to adapt to new situations, Motivation for quality and Ability to learn or autonomous learning

Their analysis sought to establish such competencies as those that cannot be lacking in any university graduate and should be procured regardless of the educational model with which they will work (Lagunes Domínguez et al., 2017), without taking into account the context of action of future graduates, nor the labor sector for which they were being trained.

As studies on generic competencies became more widespread and understood by academic and labor personnel, nuances arose referring to phenomena of the modern world that gave them new perspectives of analysis.

Due to their transcendence, it is worth highlighting those associated with sustainability, conceived as the only support in the training of new generations that could guarantee the durability of life in general and human life in particular, on planet Earth.

In 2011, Wiek et al. (2011) developed a theoretical study on the conceptualization of the generic competencies that they considered essential for the achievement of a responsible university education towards sustainability. These were: systems thinking competence, strategic competence, normative competence and anticipatory competence, which are integrated into a metacompetence called by them interpersonal. To the definition, these authors added the actions that guarantee the achievement of the corresponding competence and the methodology to be followed for its formation. In addition, they establish a synonymic value of the term competency with ability and capacity. Due to its importance, a synthesis of this analysis is taken up again.

According to them, **systems thinking competency** is the ability to jointly analyze complex systems that cross different domains (society, environment, economy, etc.) across various scales (from local to global), considering, in turn, a cascade of effects, inertia, feedback loops and other characteristics related to sustainability issues and problem-solving frameworks.

The ability to analyze complex systems includes the empirical understanding of their essential components, the dynamics between them (cause-effect, cascade effects, etc.) and the perceptions, motivations and decisions that influence social and environmental systems, as well as the different consequences of actions, resilience, structures and adaptations, both at local and global scales and across the different domains of sustainability (social, environmental, economic, etc.). It includes knowledge of collectives and social groups, their values, preferences, needs, decisions, policies and laws. Methodologically, it requires working with qualitative and quantitative methods, participatory systems, social systems analysis and institutional decisions (Wiek et al., 2011).

Strategic competence is the ability to jointly design and implement transformable interventions, transitions and governance strategies towards sustainability. This capacity requires an understanding of concepts such as intentionality, path dependencies, potential barriers and partnerships, knowledge of the feasibility, viability, effectiveness, efficiency of systemic interventions, as well as the potential

for unintended consequences. Requires methodological knowledge of design, implementation, evaluation of policies and strategic schemes. Supportive methods of learning and reflection, as well as supportive methods for behavioral change and organizational management. This competence enables the development of transition strategies towards sustainable models (Wiek et al., 2011).

Normative competence is the ability to collectively assign, specify, apply, reconcile and negotiate sustainable values, principles, objectives and goals. It requires conceptual knowledge of sustainability values and objectives, as well as the potential risks arising from actions. It involves integrating the concepts of justice, equity, social integrity and ethics. Qualitative and quantitative methods must be used, including "visioning", multi-criteria evaluation, optimization of objectives, risk analysis. This competence enables to calculate and work visions of sustainability and to understand complex problems in the current situation and their resolution (Wiek et al., 2011).

Anticipatory competence is the ability to collectively analyze, evaluate and envision "images" of the future related to sustainability issues and sustainability problem solving frameworks. It requires handling the concepts of: temporality (past, present and future), duration (short or long), uncertainty that allows to envision possible future situations, the concept of inertia, dependence or independence, the concept of consistency, risk, equity and precaution. Methodologically, qualitative and quantitative methods should be used in its formation, including predictions, model simulation, analysis and "visioning" methods (Wiek et al., 2011).

Interpersonal macrocompetence is the ability to motivate, enable and facilitate collaboration and participation in sustainability research and problem solving. This capacity includes advanced communication skills, deliberation and negotiation, collaboration (interdisciplinary and transdisciplinary), leadership, pluralistic thinking and empathy. The methodologies to be developed in the training of this competence are therefore participatory methods, including negotiation, mediation, deliberation, constructivism and teamwork (Wiek et al., 2011).

Numerous debates and a diversity of positions led Rieckmann (2012) to carry out an analysis based on the work of seventy experts in Education for Sustainable Development from five countries (Germany, Chile, Ecuador, Great Britain and Mexico), which allowed him to synthesize their proposals into thirteen generic competencies. These were:

- Competence in systems thinking and complexity management
- Competence for anticipatory thinking

- Critical thinking competence
- Competence for fair and ecological performance
- Competence for cooperation in heterogeneous groups
- Competence for participation
- Competence for empathy and change of perspective
- Competence for interdisciplinary work
- Competence in communication and the use of technologies
- Competence to plan and carry out innovative projects
- Competence to evaluate
- Competence for ambiguity and frustration tolerance ambiguity
- Systemic thinking competency

In the authors' opinion, these positions referring to sustainability should be incorporated into the analysis of general generic competences, due to their relevance in today's world, characterized by wars between nations for various reasons, which affect the human habitat and life on earth in particular. Furthermore, there can be no objective analysis for a professional project that ignores sustainability in the use of resources and the aggression to the environment that may be caused by any of the processes that integrate it.

However, most of the authors consulted agree that the purpose of higher education institutions is to train professionals according to the demand for competent insertion into the labor market. Hence the importance of developing generic competencies, in unison with specific competencies, to achieve competitiveness and assured employability for these young people (Rodríguez San Miguel et al., 2022).

In this regard, it is considered essential that university accreditation processes pay due attention to the development of generic competencies in higher education, which should be revealed in the national evaluation standards, through dimensions that cross all variables, so that the responsibility shared by managers, faculty and students in this task can be seen. Without this integral vision, it will be difficult to achieve the desired success.

The opinion of the Bertelsmann Foundation is also along these lines, since it envisions the role of internal and external assessment as part of this process. This institution argues that the results of the diagnosis of generic or cross-cutting competencies provide important information on the

particular qualities and interests of students, as well as on their development potential. For them, the diagnostic procedures of competencies in the school environment can be carried out both by teachers and by external services or providers.

They are of the opinion that the following aspects should be clarified first and foremost when choosing a competency diagnosis procedure for the center:

What generic or transversal competencies can be recorded with this procedure? Are the competencies related to the professional field that the student wants to choose? What strategies are used in the diagnosis? (Observation, test, forms...) Does it contain elements of self-evaluation apart from external evaluation? Does the diagnosis meet clearly defined quality standards? Does the diagnosis allow direct application of the results to individual improvement and strengthening? Are the people who carry out the diagnosis qualified to do so? What costs are involved in its execution? (Hammer et al., 2014).

They go further, considering that attention should also be paid to ensuring that the strategies comply with an adequate methodology and meet certain quality parameters. In this regard they point out the following general criteria (Hammer et al., 2014):

- Objectivity: A procedure is objective when its execution and evaluation, as well as the interpretation of the results, cannot be subjectively affected by the person who carries it out
- Reliability: A procedure is reliable when it can accurately diagnose competencies
- Validity: A procedure is valid when it allows determining exactly those competencies it intends to diagnose

Although their considerations are aimed at the field of career guidance, they highlight the value of generic competencies in this process because the Bertelsmann Foundation wants to develop a coordinated and quality career guidance system with the support and collaboration of educational agents, companies and other institutions, which takes into account the qualities, talent and competencies of each student and offers an updated vision of the specific needs of the labor market, which is undoubtedly related to the present research.

However, professional success is not guaranteed exclusively by the mastery of strategies, whether generic or specific. Today, there is also talk of important types of human behavior, including what has come to be known as entrepreneurial behavior.

Quezada et al. (2021) define it as a behavioral tendency derived from a series of generic competencies aimed at modifying the present situation of an individual to reach a criterion of achievement in a given context, such as a personal objective or goal. This implies that the applicability of entrepreneurial behavior is observed in other contexts, in addition to business, such as social, organizational and academic contexts, among others.

For these authors (Quezada et al., 2021) the referred tendency is manifested in:

- Personal competencies: 1) generating new ideas; 2) adapting to an adverse environment; 3) working proactively; 4) confidence in one's own actions and decisions; 5) working in a disciplined manner
- Interpersonal competencies: 1) collaborating with others; 2) seeking and reaching agreements; 3) seeking others to work with; 4) mobilizing others; 5) organizing work for others
- Functional competencies: 1) time management; 2) problem solving; 3) decision making; 4) project planning; 5) project management

This link between entrepreneurial behavior as a human behavior and the generic competencies that are promoted in the training of professionals should be taken into account by universities when designing their training models, so that they contribute to successful labor market insertion, or to the creation of new employment opportunities for themselves and for others.

On the other hand, in Latin America in recent years, the Generic Competencies Questionnaire of the Tuning Project 2004-2007 has been used as a basis for research on the relevance of developing generic competencies in higher education. However, this is beginning to be criticized, since experts agree that all countries cannot be pigeonholed into the same list of generic competencies, but that these should be defined according to the needs of each context (Cotronei Baird, 2020).

For this reason, the authors of this research consider it necessary to analyze the new realities of the Central American and Caribbean region in order to update the aforementioned list of 27 generic competencies that should be strengthened in university education.

A current study of the generic competencies of the Tuning Project in the Mexican context, developed by Real Beltrán (2022), indicates that these no longer correspond entirely with the demand of the labor sector since, according to him, ten categories of generic competencies recovered from the

literature on employer studies in Mexico are shown, which are not included in the list proposed by the Tuning-Latin America Project 2004-2007. According to her, these are:

1. Service
2. Entrepreneurship
3. Leadership
4. Negotiation
5. Discipline
6. Professional image
7. Life project
8. Responsibility
9. Planning
10. Health

And finally, the bibliography consulted shows dissatisfaction with what is happening within the institutions, where a real commitment to the development of generic competencies is sometimes not perceived, especially after the Covid-19 pandemic, which displaced the face-to-face space almost completely to the virtual space, and the teaching tasks to written work.

Jacob Taquet (2017) expresses that it is clear that the frequency and intensity with which the different generic competencies included in the curricula have been worked on is uneven. Fundamental aspects such as the revision of the selection of competencies or the teaching-learning methodology need to be addressed (...) We have the feeling that we are not managing to develop the map of generic competencies designed for each of the undergraduate degrees. We wonder what is being done in the classrooms: what competencies are being worked on and to what extent they are being developed by the students.

It can be concluded from the previous analyses that the mastery of generic competencies is of crucial importance in life, in general, and in successful professional performance, in particular. Hence the need for the labor sector and academia to integrate knowledge and methodologies for their development in the young generation, which must face the extraordinary scientific-technological challenges that lie ahead.

Translated from the original in Spanish

The generic competencies for sustainability must be integrated to those considered essential for any curriculum and educational model because of what they mean for the sustainability of species and life on Earth.

REFERENCES

Álvarez Benítez, M. M., & Asensio Muñoz, I. I. (2020). Evidencias de validez de una medida de competencias genéricas. *Educación XX1*, *23*(2), 337-366. https://doi.org/10.5944/educxx1.25896

Araya Pizarro, S. C. (2019). Competencias genéricas de los estudiantes de Auditoría requeridas por las Big Four en Chile. *Cuadernos de Contabilidad*, *20*(49). https://doi.org/10.11144/Javeriana.cc20-49.cgea

Cotronei Baird, V. S. (2020). Academic hindrances in the integration of employability skills development in teaching and assessment practice. *Higher Education*, *79*(2), 203-223. https://doi.org/10.1007/s10734-019-00405-4

Crespí, P. (2020). How higher education can develop generic competences? *IJAEDU International E-Journal of Advances in Education*, *6*(16), 23-29. http://ijaedu.ocerintjournals.org/en/pub/ijaedu/issue/56446/788225

Crespí, P., & García Ramos, J. M. (2021). Competencias genéricas en la universidad. Evaluación de un programa formativo. *Educación XX1*, *24*(1), 297-327. https://doi.org/10.5944/educxx1.26846

Gómez Gamero, M. E. (2019). Las habilidades blandas competencias para el nuevo milenio. *DIVULGARE Boletín Científico de la Escuela Superior de Actopan*, *6*(11). https://doi.org/10.29057/esa.v6i11.3760

Hammer, K., Ripper, J., & Schenk, T. (2014). *Guía de orientación profesional coordinada*. Fundación Bertelsmann. https://www.fundacionbertelsmann.org/publicaciones/guia-de-orientacion-profesional-coordinada/

Jacob Taquet, I. (2017). Desarrollo de competencias genéricas en los estudios de Ingeniería Informática: ¿qué está pasando? *Actas de las Jornadas sobre la Enseñanza Universitaria de la Informática (JENUI)*, *2*, 87-93. https://dialnet.unirioja.es/servlet/articulo?codigo=8463963

Lagunes Domínguez, A., Tafur Jiménez, L. A., & Giraldo Ocampo, J. D. (2017). Propuesta de Flipped Classroom para el desarrollo de las competencias genéricas en estudiantes de ingeniería. *Ingenierías USBMed*, *8*(1), 43-48. https://doi.org/10.21500/20275846.2762

Navarro Saldaña, G., Rubio Aguilar, V., Lavado Huarcaya, S., Minnicelli, A., & Acuña, J. (2017). Razones y propósitos para incorporar la responsabilidad social en la formación de personas y en organizaciones de Latinoamérica. *Revista Latinoamericana de Educación Inclusiva*, *11*(2), 51-72. https://doi.org/10.4067/S0718-73782017000200005

OECD. (2019). *The Survey of Adult Skills: Reader's Companion* (3.ª ed.). Organisation for Economic Co-operation and Development. https://doi.org/10.1787/f70238c7-en

Pugh, G., & Lozano Rodríguez, A. (2019). El desarrollo de competencias genéricas en la educación técnica de nivel superior: Un estudio de caso. *Calidad en la Educación*, (50), 143-179. https://doi.org/10.31619/caledu.n50.725

Quezada, M. E., Vega Valero, C. Z., & Nava Quiroz, C. (2021). Evaluación de las competencias genéricas del comportamiento emprendedor. *Retos*, *11*(22), 301-314. https://doi.org/10.17163/ret.n22.2021.07

RAE. (2020). Competencia. En *«Diccionario de la lengua española» - Edición del Tricentenario*. Real Academia Española. https://dle.rae.es/competencia

Real Beltrán, A. C. (2022). Las competencias genéricas más relevantes en el contexto laboral mexicano. En *Experiencias innovadoras y desarrollo de competencias docentes en educación ante el horizonte 2030* (pp. 874-899). Dykinson. https://dialnet.unirioja.es/servlet/articulo?codigo=8553630

Rieckmann, M. (2012). Future-oriented higher education: Which key competencies should be fostered through university teaching and learning? *Futures*, *44*(2), 127-135. https://doi.org/10.1016/j.futures.2011.09.005

Rodríguez San Miguel, M. C., Carmen Moreno Carrera, E. A., Wong Baquero, F. D. M. I., & Hurtado Aspiros, A. G. (2022). Niveles de las competencias genéricas en la enseñanza de Biología. *Alpha Centauri*, *3*(3), 153-157. https://doi.org/10.47422/ac.v3i3.106

Sierra Alonso, I., Pérez Quintanilla, D., & Ballesteros, R. (2011). *Desarrollo-evaluación de competencias genéricas en los estudiantes universitarios: Un estudio basado en los títulos de grado de las ramas científica y tecnológica*. Dykinson. https://dialnet.unirioja.es/servlet/libro?codigo=703064

Tuning América Latina. (2007). *Reflexiones y perspectivas de la Educación Superior en América Latina. Informe Final -Proyecto Tuning- América Latina 2004-2007*. Universidad de Deusto. http://tuningacademy.org/wp-content/uploads/2014/02/TuningLAIII_Final-Report_SP.pdf

Wiek, A., Withycombe, L., & Redman, C. L. (2011). Key competencies in sustainability: A reference framework for academic program development. *Sustainability Science*, *6*(2), 203-218. https://doi.org/10.1007/s11625-011-0132-6

Conflict of interest

Authors declare that they have no conflicts of interest.

Authors' contribution

Aydeé Rivera de Parada, Débora Mainegra Fernández and Elia Elizabeth Pineda Rivas designed the study, analyzed the data and prepared the draft. In addition, they were involved in the collection, analysis and interpretation of the data.

All the authors reviewed the writing of the manuscript and approve the version finally submitted.