



Labour competences as a key axis in higher education within the framework of the substantive functions

Derling Jose Mendoza Velazco^{a,*}, Cejas Martinez Magda Francisca^b, Ricardo Giniebra Urrea^a, Mercedes Carolina Navarro Cejas^a

^a Faculty of Humanities and Social Sciences and Faculty of Law, Universidad Técnica de Manabí UTM, Manabí 130107, Ecuador

^b Department of Research, Faculty of Research, National University of Chimborazo (UNACH) and University of the Armed Forces (ESPE), Chimborazo 060108, Ecuador

Article Info

Article history:

Received 1 November 2022

Revised 4 December 2022

Accepted 11 December 2022

Available online 17 November 2023

Keywords:

competences,
higher education,
job skills,
social sciences,
substantive roles

Abstract

The aim of this article was to characterise the labour competences of university teachers using characteristics according to the professional pathway that responds to the substantive functions. The methodology was of the mixed or multi-method type, and the research design was of the exploratory sequential type. First, a qualitative analysis was applied. Then, based on the results, a final quantitative study was applied. The study was aimed at the university teaching population in Ecuador. A non-probabilistic participative sampling was applied. A total of 210 university teachers participated in the study. Documentary review was used as a technique with interpretative and systematic analysis. The questionnaire consisting of 27 items or questions was also used as a data instrument. The analysis of the criteria underpinning the work competences, the leading role of the university teacher and the requirements for a high-performance teacher were established. It was concluded that the university teacher must be characterised by being, knowing and doing. This trilogy is fundamental in the activities that guarantee the suitability of work performance. Teaching is based on transversal skills and competences relevant to professional development research: this is based on the ability to search for information and formulate and solve problems. The following can be characterised as key competences in Ecuadorian university education: leadership, professional experience, teamwork and communication skills. The competences corresponding to the substantive functions are teaching and research.

© 2023 Kasetsart University.

* Corresponding author.

E-mail address: derling.mendoza@utm.edu.ec (D. Mendoza).

<https://doi.org/10.34044/j.kjss.2023.44.4.05>

2452–3151/© 2023 Kasetsart University.

Introduction

There are currently many reports generated by the (United Nations Educational, Scientific and Cultural Organisation [UNESCO], 2018). The reports highlight the importance of the Millennium Development Goals. They aim to address the eradication of poverty and hunger, strengthening universal education, promoting gender equality and women's empowerment, reducing child mortality, improving maternal health, combating HIV/AIDS, malaria and other diseases, ensuring environmental sustainability, among others. Also, devaluing the reality of the countries in the quest and challenge of achieving quality education (CACES, 2018).

Within the framework of these goals, education at all levels is a priority as a global policy. Education is important for the development of countries. Thus, multilateral meetings have become visible for various factors and/or components of higher education. The decision-makers are representatives of the various ministries of education, rectors, advisors and groups from all over the world. These decision-makers must generate a range of knowledge and competencies. These competences impact on the personal, professional and civic formation and identity of the actors in the system (Larrea & Granados, 2014).

In Europe and Latin America, two major issues should be highlighted. Firstly, the quality of higher education, and secondly, university social responsibility. It can be extended not only to the university world, but also to other educational institutions. For example, technical training centres and vocational institutes.

As a result of these changes, institutions have focused their attention on an active and dynamic factor. A factor that drives the achievement of strategic objectives in all agendas proposed by public and private institutions (Murrieta, 2017). This is the reason for studying the characterisation of labour competences in higher education (Cejas 2016; Vázquez & López 2017; Villarroel & Bruna 2017). Teachers are the actors responsible for the favourable or unfavourable change that must take place. Changes must be introduced with a view to increasing the expected competitiveness and/or productivity of the institution. These changes generate their own work skills or competences.

The following question is then posed:

- What are the characteristic competences of university teachers?

- What are the key competences in the social sciences?

To answer these questions, the following objectives are set out:

- To characterise the work competences of university teaching staff.

- To characterise the competences in terms of the professional pathway that responds to the substantive functions.

Literature Review

Educational practice in higher education is linked to the transformation of various changes. The changes require and demand a new paradigm. The paradigm directly underlies the main actor in higher education, the university teacher Morín (1997). This requires an attitude that implies a change of behaviour towards research activities that will consolidate teaching and networking. As Morín (2011) says, if we do not relate knowledge according to the principles of complex knowledge, we will not be able to know the common fabric of knowledge. We will not be able to know the common fabric of things. We will only see the threads of the tapestry. But we will not be able to identify the image.

On the other hand, Canals et al. (2019), argues that our society needs a quality education system that is flexible and able to respond to the changing needs of business and society itself. The future of employment requires an understanding of the knowledge and skills that companies will need in the coming years. These are ultimately what create jobs and play a key role in skills. Vocational skills must be developed to ensure the employability of young people in the future.

Transversal, transdisciplinary and transformative educational actions can provide different answers. Such generate contributions to the social and educational needs of the reality in which they are framed. In this way, pro-competence training implies generating a professional career for key university teachers (Vázquez et al., 2017). Given that, in their daily actions, teachers must incorporate a series of practices that support a high-level process for professional performance.

In this sense, it can be affirmed that the training process has become a major element to be considered by organisations. The human being is a key element in companies, due to the existing globalisation process. Also, due to the constant development of new technologies implemented in work processes, the essential condition for people to improve continuously is their knowledge, skills and abilities. These help to manage the new processes imposed by development.

Thus, it is important to note that there are multiple meanings of competence-based training. The meaning of competences themselves and their characterisation today is highly complex. Many writers from different disciplines approach it from their field of implementation. Competences are linked to the training of people and are part of a set of systematised policies, strategies and processes. The aim

is to train, qualify and enhance competences on a continuous and permanent basis. They strengthen people's capacity for action in their work activities.

The characterisation of new management models, highlighting training, competences, technologies and organisations is becoming more and more noticeable in the global economic environment. This implies that approaches nowadays revolve around these postulates. Porter (2013) explains that competition is becoming more and more international, nations are becoming more important. The basis of competition has increasingly shifted towards the creation and assimilation of knowledge. The role of the nation has grown in importance. Competitive advantage is created and maintained through a highly localised process. Differences in a nation's values, cultures, economic structures, institutions and history contribute to competitive success.

The integration between factors such as competitiveness and learning become more relevant. Importantly, this condition is linked to the need for highly competitive profiles. The great need is to select professionals who are willing to respond and adapt to the transformations undergone by organisations. The search is focused on the basic arguments that are generated in the Human Capital of companies so that they can demonstrate the necessary competences. They are then able to work generating greater productivity and competitiveness. In this regard Cejas et al, (2017) mentioned that human capital contributes to the economic progress of nations. This capital can be increased and developed through investment in education and business training. It increases, improves people's knowledge and qualifications.

Competence-based vocational training for teachers is seen as a decisive axis. In the development of competences for quality higher education, the conditions and factors set out in the educational models are considered. Universities are considering this type of approach for curricular reforms in numerous universities around the world (Alpizar & Molina, 2018).

The transversal lines of educational models in universities currently have pedagogical and didactic dimensions. They are conceived as a way of sustaining the practice of the teaching-learning process in response to the substantive functions. Teaching, research and liaison are considered substantive functions. The aim of education is to improve the profile of the learner. To improve the conditions governing teaching. To make knowledge management relevant and to establish specific guidelines for a complex society.

Types of Job Skills

Llopart and Redondo (1997); Escalante and Druet (2008) establish three categories of individual competences:

1. Technical competences: defined as specific knowledge or know-how. These enable the development of the responsibilities corresponding to an occupation. They can be theoretical knowledge, scientific and technical languages.

2. Specific competences: also known as "know-how", which are methods or skills that enable the functions or responsibilities of a job to be carried out. Expected performance is expressed in terms of observable capabilities.

3. Generic competencies: "know-how" are personal characteristics (skills, attitudes, traits, and behaviours) that allow the individual to behave within his/her occupation. These competences are the ones most required by organisations from their employees.

According to Trujillo (2014) there are three groups of competences, identified as basic, generic and specific:

1. Basic competences are oriented towards reading, writing, oral communication and mathematical skills.

2. The generic ones are given by actions in different sectors or activities, generally in relation to the handling of equipment.

3. Specific ones refer to specific occupations and are not easily transferable.

The characterisation of competences implies understanding the application of skills or abilities. It also involves knowing the objectives and contents of the work to be performed, where it is expressed in Knowing, Knowing How to Do and Knowing How to Know. Knowledge and manual skills increase people's capacity, combining cultural, social and latitudinal aspects. [Table 1](#) identifies the types of competences and their derivations in higher education.

Methodology

The study applied mixed method research. Both quantitative and qualitative paradigms were applied as a scientific method. Scientific research in its development requires an adequate systematisation based on the aspects that were generated around the research process (Cejas, 2017). Therefore, this research is of mixed approach.

The research design was of the exploratory sequential type (DEXPLOS). In its derivative mode, it is applied by many researchers in the Social Sciences for the development of research instruments mainly when seeking to design appropriate indicators and instruments for a given context and population. This model is characterised by first applying a qualitative analysis. Then, based on its results, a final quantitative study is applied (Hernández & Mendoza, 2018).

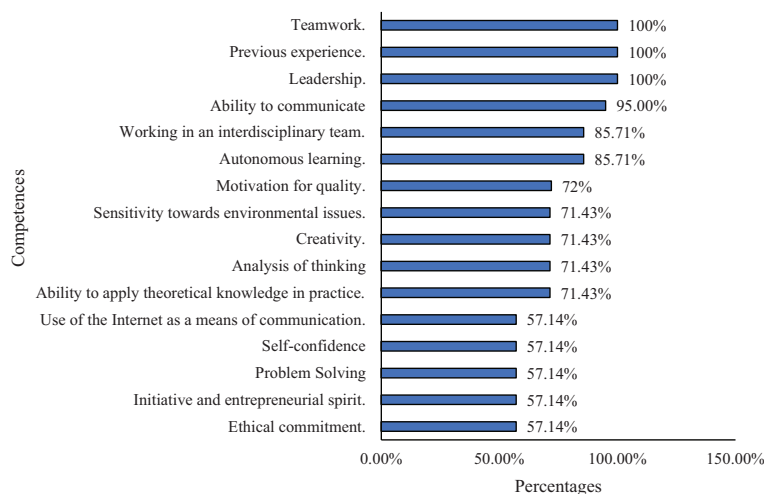


Table 1 Percentage results applied to university teachers in Ecuador during the year 2022.

Population

The study was aimed at the university teaching population in Ecuador. A participatory non-probabilistic sampling was applied (Mendoza et al., 2021). Three teachers per university were selected. An e-mail invitation was sent out with the questionnaire. A total of 210 university teachers participated.

Techniques and Instruments for the Collection of Information

Documentary review was used as a technique with interpretative and systematic analysis. The questionnaire was also used as a data collection instrument. It consisted of 27 items or questions. The questions represented the categorical variables of the competences.

Research Phases

First, an analytical review was developed for the construction of the theoretical framework. Papers and studies were analysed in the Scopus, Web of Science, Scielo and Latindex databases. A documentary review of the characterisation of competences in university teachers in Ecuador during the year 2022 was applied. A review was also made of the processes linked to the theory of labour competences. The results were analysed using a hermeneutic-interpretative approach. The primary and secondary sources contacted were reliable sources.

Then, the quantitative analysis and evaluation phase was applied. This method applied in the research process is very useful because it enables innovation. It facilitates the development of proposals, the creation of models, and systematisation, also, the analysis of the results through the practical approach (LaMadrid, 2020). The quantitative

results were analysed through percentages. The percentages showed the most appropriate competence for Ecuadorian university teachers. The results gave an answer to the proposed objective.

Results

The study is based on characterising the work competences of university lecturers as a set of attributes (knowledge, skills, abilities, skills, abilities and attitudes). The attributes affect different types of tasks framed in the work of teaching, research and liaison. They are therefore broadly generalisable and transferable, resulting in effective implementation or action.

It should be noted that the study was carried out in universities in Ecuador. Within the framework of the search for sources linked to the process of evaluating the performance of university teachers, it was necessary to consider what is established in the rules that regulate the accreditation system of Ecuadorian universities. This system is called Higher Education Quality Assurance Council (CACES). The objective of CACES is to assure the quality of all the processes that revolve around the three substantive functions of higher education in the country. It also gives centrality to the institutional self-evaluation process and promotes substantive participation with the aim of improving the education system.

Among the qualitative results, university teachers in Ecuador are obliged to develop their capacities and competences by virtue of the requirements of knowing, being and doing. Thus, through the competences that characterised the Tuning Project, the list of generic competences is considered and typologies are instituted. These competences are structured in three categories:

Instrumental Competences

They identify capacities and skills of a cognitive, methodological, technological and linguistic nature. They link ideas, thoughts, time organisation, decision making, problem solving, information management skills, and communicative competence.

Interpersonal Competences

Distinguishes individual skills such as: feelings, perceptions, teamwork, ethical or social commitments, interpersonal skills.

Systemic Competences

Allows an appreciation of the relationships and links between the parts of a whole. Understanding, sensitivity, knowledge and planning for change bring these competences together.

The results shown in Table 1 highlight the competences that university teachers possess for the performance of their activities. It is evident that previous experience, teamwork, communication skills, among others, are the most important competences in teaching activities.

In the quantitative results, these professionals were asked about the key competences in their training cycle. They were asked to choose the competences that would respond to the professional profile demanded by the labour sector. For this purpose, the list of generic competences highlighted in the flagship project (on labour competences) called Tuning Latin America (2002) was considered. The project proposes 27 key competences for labour actors in higher education, these being the following competences:

1. Ability to abstract, analyse and synthesise.
2. Ability to apply knowledge in practice.
3. Ability to organise and plan time.
4. Knowledge of the field of study and the profession.
5. Social responsibility and civic engagement.
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 skills.
10. Ability to learn and update oneself permanently.
11. Ability to search for, process and analyse information from a variety of sources.
12. Ability to be critical and self-critical.
13. Ability to act in new situations.
14. Creative ability.
15. Ability to identify, pose and solve problems.
16. Ability to make decisions.

17. Ability to work in a team.
18. Interpersonal skills.
19. Ability to motivate and lead towards common goals.
20. Commitment to the preservation of the environment.
21. Commitment to their socio-cultural environment.
22. Appreciation and respect for diversity and multiculturalism.
23. Ability to work in international contexts.
24. Ability to work in an autonomous manner.
25. Ability to formulate and manage projects.
26. Ethical commitment.
27. Commitment to quality.

According to the results, 23 competences were considered by the respondents (between 57.14% and 100%). In first place, with a score of 100 percent, were teamwork, previous experience, and leadership (Table 1). Based on the literature consulted, this points to a suitable professional within the framework of the activities carried out in the substantive functions of university teaching in Ecuador. These competences demonstrate suitability in the expected performance. Communication skills accounted for 95 percent. According to the study carried out in university institutions, there is a great need to promote professional communication.

Autonomous learning and interdisciplinary teamwork accounted for 85.71 percent. These competences are found in the university research process. They are part of the requirements for teaching work. Therefore, competences such as: organisational and planning skills, knowledge of a foreign language, computer skills, ability to manage information, problem-solving, decision-making, ability to apply knowledge in practice, among others related to interpersonal, systemic and instrumental competences, should be promoted.

Conclusions and recommendations

The requirements for a high-performance teacher are to be found in being, knowing and doing. The experience demonstrated in recent years by Ecuadorian university institutions in competency-based training stems from their efforts. For the exercise of the three substantive functions, adequate mechanisms are required at national level to maintain and acquire a continuous commitment. This commitment enhances the work done by university teachers through competences. To this end, it is necessary to improve the implementation of quality processes aimed at continuous improvement and training. In this way, university institutions in the exercise of their responsibilities will be more successful. They will also be more transparent and dynamic, thus favouring a university teacher. The primary characterisation of the university

teacher lies in his or her skills and knowledge. These are focused within the framework of their working conditions, thus ensuring the formation of a high-performing professional.

To respond to the first objective, the key competences in Ecuadorian university education can be characterised as: leadership, professional experience, teamwork and communication skills. For the second objective, the competences corresponding to the substantive functions: teaching and research. Teaching is based on transversal skills and competences relevant to professional development. It enables systemic thinking, critical thinking, self-awareness, problem solving, creative thinking, entrepreneurship, social responsibility, partnership skills and feeling comfortable in interdisciplinary environments. Regarding research: such is based on the ability to search for information and formulate and solve problems.

Conflict of interest

The authors declare that there is no conflict of interest.

Recognitions

Recognition to the National University of Chimborazo for making possible the research work through the database product of the research project entitled: Characterization of Labor Competencies led by Dr. Magda Cejas Martínez.

References

- Alpizar, J., & Molina, M. J. (2018). Competencies in the context of higher education in Ecuador. *ATENAS*, 2(42), 108–121. <https://www.redalyc.org/articulo.oa?id=4780/478055152008>
- Canals, P. J., Blázquez, M., & y Masclans, R. (2019). *Las empresas no encuentran las habilidades profesionales que necesitan* [Companies can't find the professional skills they need]. https://perspectiva.ide.edu.ec/investigacion/wp-content/uploads/2019/10/Perspectiva-October-2019_4.pdf
- Cejas, M. (2017). *Metodología de la Investigación Científica* [Scientific research methodology]. Editorial ESPE.
- Cejas, M. (2016). *Competencias laborales. Disertación* [Labour competences. Dissertation]. Universidad Central de Venezuela.
- Escalante, R., & Druet, N. (2008). *Competencias laborales* [Labour competences]. Instituto Tecnológico de Mérida.
- Hernández, S., & Mendoza, C. (2018). *Metodología de la investigación* [Research methodology]. Mc. Graw Hill Education.
- Consejo de Garantía de la Calidad de la Educación Superior (CACES) (2018). *Política de evaluación institucional de universidades y escuelas politécnicas en el marco del Sistema de Garantía de Calidad de la Educación SUPERIOR* [Institutional evaluation policy of universities and polytechnics in the framework of the Quality Assurance System for Higher Education]. https://www.caces.gob.ec/documents/20116/152061/44/4436.afsh/4436_1.0.afsh
- Vázquez, N., & López, R. (2017). La construcción de competencias en la educación turística. En el ámbito del aula y la práctica, a través de proyectos integradores [Competence building in tourism education. In the classroom and in practice, through integrative projects]. *Revista Iberoamericana de Producción Académica y Gestión Educativa*, 4(8), 1–22. <https://www.pag.org.mx/index.php/PAG/article/view/699>
- LaMadrid, J. (2020). *Metodología de la investigación* [Research methodology]. Editorial CIDE.
- Larrea, E., & Granados, V. (2014). *El sistema de educación superior para la sociedad del conocimiento del buen vivir: El caso ecuatoriano* [The higher education system for the knowledge society of the good life: The case of Ecuador]. Universidad Católica de Santiago de Guayaquil.
- Llopart, X., & Redondo, R. (1997). *Gestión de Recursos Humanos: Aplicación del método de gestión basado en competencias* [Human resources management: Applying the competency-based management approach]. Universidad de Barcelona.
- Mendoza, D., Flores, E., Cejas, M., & Liccione, E. (2021). Mathematics Anxiety and Its Effects on Engineering Students' Performance during the Covid 19 Pandemic. *Journal on Mathematics Education*, 12(3), 547–562. <http://doi.org/10.22342/jme.12.3.13205.547-562>
- Morín, E. (1997). *Los siete conocimientos necesarios de la educación del futuro* [The seven skills needed for the education of the future]. Multiversidad Mundo Real.
- Morín, E. (2011). *La Vía para el futuro de la humanidad* [The way forward for the future of humanity]. Paidós.
- Murrieta, M. (2017). *Plan de promoción turística de los senderos: las cascadas y piscinas naturales de la comuna dos mangas en la parroquia de Manglaralto, provincia de Santa Elena* [Tourist promotion plan for the trails: waterfalls and natural pools in the commune of dos mangas in the parish of Manglaralto, province of Santa Elena]. Universidad de Guayaquil.
- Porter, M. (2013). *Ventaja competitiva: Creación y sostenibilidad de un rendimiento superior* [Competitive advantage: Creating and sustaining superior performance]. Ediciones Pirámide.
- Trujillo, J. (2014). El enfoque en las competencias y la mejora de la educación [The focus on skills and the improvement of education]. *Ra Ximhai*, 10(5), 307–322. <https://www.redalyc.org/articulo.oa?id=46132134026>
- Tuning Latin America (2002). *Competencias proyecto tuning-europa, tuning-america latina* [Tuning-europe, tuning.-latin america project competitions]. http://www.cca.org.mx/profesores/cursos/hmfbcp_ut/pdfs/ml1/competencias_proyectotuning.pdf
- United Nations Educational, Scientific and Cultural Organisation [UNESCO] (2018). *La educación en 2018 a través de algunas historias* [Education in 2018 through some stories]. <https://es.unesco.org/news/educacion-2018-traves-algunas-historias>
- Vásquez, G., Cejas, M., & y Chirinos, N. (2017). *Gestión de recursos humanos la arquitectura estratégica de las organizaciones* [Human resource management - the strategic architecture of organisations]. Universidad de las Fuerzas Armadas – ESPE.
- Villarreal, V. & y Bruna, D. (2017). Competencias pedagógicas que caracterizan a un profesor universitario de excelencia: un estudio de caso que incorpora la perspectiva de profesores y estudiantes [Pedagogical competencies of university teachers: A case study, which incorporates the perspective of chilean teachers and students]. *Revista Formación Universitaria*, 10(4), 75–96. <https://dx.doi.org/10.4067/S0718-50062017000400008>