

**Competences of Higher Education in  
Ecuador**

**Competencias de la Educación Superior  
en Ecuador**

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## RESUMEN

El estudio sobre las competencias en la Educación Superior del Ecuador destaca tanto avances como desafíos significativos en la formación de habilidades. Las competencias genéricas, como el pensamiento crítico, la comunicación efectiva y el trabajo en equipo, son ampliamente valoradas, pero su desarrollo varía entre instituciones. Algunas universidades han adoptado metodologías innovadoras, como el aprendizaje basado en proyectos, mientras que otras aún utilizan métodos tradicionales, afectando la equidad y calidad educativa. En cuanto a las competencias específicas, las universidades técnicas y tecnológicas están mejor alineadas con las necesidades del mercado laboral, integrando prácticas profesionales y tecnologías emergentes. En contraste, las universidades tradicionales, especialmente en ciencias sociales y humanidades, enfrentan retos en actualizar sus currículos y ofrecer experiencias prácticas, lo que resalta la necesidad de reformas para preparar mejor a los graduados para el mercado laboral. Las metodologías de enseñanza y evaluación también presentan desafíos. Aunque las metodologías activas como el aprendizaje basado en problemas son efectivas, su implementación no es uniforme, y muchas instituciones siguen utilizando métodos tradicionales que limitan la aplicación práctica del conocimiento. Las evaluaciones centradas en el conocimiento teórico no capturan adecuadamente las habilidades prácticas y transversales. Las políticas educativas han establecido directrices importantes, pero su implementación enfrenta problemas como la falta de recursos y rigidez administrativa. La brecha entre teoría y práctica, la rápida evolución tecnológica y la necesidad de colaboración con el sector productivo requieren atención continua para mejorar la educación superior en Ecuador.

**Palabras claves:** competencias, educación superior, ecuador, formación académica, mercado laboral

## ABSTRACT

The study on competences in Higher Education in Ecuador highlights both significant progress and challenges in skills formation. Generic skills, such as critical thinking, effective communication and teamwork, are widely valued, but their development varies between institutions. Some universities have adopted innovative methodologies, such as project-based learning, while others still use traditional methods, affecting educational equity and quality. In terms of specific skills, technical and technological universities are better aligned with the needs of the labour market, integrating professional practices and emerging technologies. In contrast, traditional universities, especially in social sciences and humanities, face challenges in updating their curricula and offering practical experiences, highlighting the need for reforms to better prepare graduates for the labour market. Teaching and assessment methodologies also present challenges. Although active methodologies such as problem-based learning are effective, their implementation is not uniform, and many institutions continue to use traditional methods that limit the practical application of knowledge. Assessments focused on theoretical knowledge do not adequately capture practical and transversal skills. Education policies have established important guidelines, but their implementation faces problems such as lack of resources and administrative rigidity. The gap between theory and practice, the rapid technological evolution and the need for collaboration with the productive sector require continuous attention to improve higher education in Ecuador.

**Keywords:** competences, higher education, ecuador, academic training, labour market

## Introduction

Higher education in Ecuador has undergone significant transformations in recent decades, driven by political, social and economic reforms. These reforms seek to improve the quality of education and the relevance of academic programmes in order to respond to the demands of the labour market and the needs of national development. In this context, competence analysis has become a crucial element in evaluating and improving educational processes, ensuring that graduates possess the necessary skills and knowledge to face contemporary challenges (Saavedra, 2012). Globalisation and increasing competitiveness in the labour market have underlined the importance of having an education system that trains highly competent professionals. In Ecuador, competence training has become a strategic priority for universities and other higher education institutions (Jameson, 1997). This focus on competences refers not only to the acquisition of theoretical knowledge, but also to the development of practical skills, attitudes and values that are essential in professional performance and in everyday life.

The concept of competences in higher education encompasses a variety of dimensions. Firstly, there are the generic or transversal competences, which include skills such as critical thinking, problem solving, effective communication, collaboration and autonomous learning (Mendoza et al., 2014). These competences are fundamental for any professional, regardless of their field of study, as they enable them to adapt to different contexts and challenges. Secondly, there are the specific competences, which are those directly related to the chosen field of study and profession. These competences include technical knowledge and specialised skills that students must acquire in order to perform effectively in their respective professional areas (Sánchez et al., 2020).

Thus, the analysis of competences in higher education in Ecuador is not an isolated exercise but is part of a broader framework of quality assurance in education. This process involves the continuous and systematic evaluation of academic

programmes, the implementation of evidence-based improvements and the active participation of all stakeholders, including students, teachers, employers and regulatory bodies (Loaiza et al., 2017). Ley Orgánica de Educación Superior (LOES), reformed in 2018, has established clear guidelines for competence formation and assessment, emphasising the importance of education that is relevant, inclusive and of quality. To better understand the current state of competences in higher education in Ecuador, it is necessary to conduct a comprehensive analysis that considers multiple perspectives and data sources. This study focuses on assessing both generic and specific competences developed by students, using a combination of qualitative and quantitative methods. Through surveys, interviews and document analysis, we seek to identify the strengths and weaknesses in academic training, as well as the existing gaps between the competences acquired by students and the demands of the labour market (Mendoza et al., 2014).

One of the most important challenges in higher education in Ecuador is to ensure that academic programmes are aligned with the needs of the labour market. Rapid technological evolution and globalisation have changed employment dynamics, creating new opportunities and, at the same time, demanding new skills. Higher education institutions must be able to anticipate these changes and adapt their programmes accordingly (Clavijo Castillo & Bautista-Cerro, 2020). This requires close collaboration with business, industry and other relevant stakeholders to ensure that skills training is attuned to the realities of the world of work. In addition, inclusion and equity are fundamental principles that should guide skills development in higher education (Saavedra, 2012). It is crucial that all students, regardless of their socio-economic background, gender, ethnicity or any other status, have access to quality education that enables them to fully develop their competences. This involves not only providing equitable learning opportunities, but also creating an inclusive and supportive learning environment that fosters the holistic development of all

students. In this regard, teacher education plays a crucial role in developing students' competences (Loaiza et al., 2017). Teachers must be prepared not only in terms of disciplinary knowledge, but also in pedagogical methodologies that promote active learning, critical reflection and the development of practical skills. Continuous training and professional development of teachers is essential to maintain the quality of education and to ensure that students receive relevant and up-to-date training (Clavijo Castillo & Bautista-Cerro, 2020).

The internationalisation of higher education is another important aspect influencing competence development. Academic mobility, international partnerships and collaboration in research projects are valuable opportunities for students and teachers to gain a global perspective and develop intercultural competences (Loaiza et al., 2017). These experiences not only enrich learning, but also prepare students to work in a globalised environment, where the ability to communicate and collaborate with people from different cultures is increasingly important (Jameson, 1997). The use of information and communication technologies (ICT) in higher education has transformed the way skills are taught and learned. ICT not only facilitates access to a vast amount of information, but also offers innovative tools for collaborative learning, data analysis and problem solving. The integration of these technologies into the academic curriculum can enhance the development of digital competences, which are essential in today's context (Clavijo Castillo & Bautista-Cerro, 2020).

Competency assessment is a key component of the educational process, as it provides valuable information about students' progress and the effectiveness of academic programmes. Assessments should be designed to reflect not only theoretical knowledge, but also practical skills and attitudes. This can include a variety of methods, such as examinations, projects, presentations, internships and portfolios. Comprehensive and continuous evaluation allows for identifying areas for improvement and making informed decisions for updating and

strengthening academic programmes (Jameson, 1999). Ecuador's socio-economic context also plays a significant role in competence development. The country's cultural and regional diversity presents both opportunities and challenges for higher education. It is important that academic programmes recognise and value this diversity, integrating content and practices that are relevant to different communities. This not only enriches students' education, but also contributes to more equitable and sustainable development (Post, 2011).

The relationship between higher education and economic development is another critical aspect that needs to be considered. The skills acquired by students not only affect their individual employability, but also have a direct impact on the country's ability to innovate and compete globally. Investment in higher education and skills development is therefore an investment in the country's future (Jameson, 1999). Policies that foster research, innovation and knowledge transfer are essential to create an environment in which skills can flourish and be effectively applied (Pacheco et al., 2020). The active participation of students in their own learning process is another key factor in the development of competences. Pedagogical methods that promote autonomy, initiative and collaboration can have a significant impact on competence formation. Project-based learning, service learning and other active methodologies allow students to apply their knowledge in real contexts, develop practical skills and reflect on their own learning (Loaiza et al., 2017). These experiences not only enrich the educational process, but also prepare students to face the challenges of the professional and personal world. Sustainability and social responsibility are emerging competences that are gaining relevance in higher education. In a world increasingly aware of environmental and social problems, it is crucial that students develop a deep understanding of these issues and acquire the necessary skills to contribute to a sustainable future (Pacheco et al., 2020). This includes not only technical knowledge, but also competences such as systems thinking, ethics and the ability

to work in interdisciplinary teams. Integrating sustainability into academic curricula and institutional practices can have a transformative impact on competence formation.

The role of higher education institutions in competence building is not limited to the classroom. Extracurricular activities, mentoring programmes and volunteering opportunities are also important components of the educational process. These experiences allow students to develop leadership skills, teamwork and social responsibility, among other competences. Institutions should encourage and support these activities as an integral part of their educational mission (Espinosa et al., 2022). The relationship between theory and practice is another crucial aspect of competence formation. Academic programmes should be designed in a way that integrates both components in a coherent and effective manner (Orellana et al., 2019). Work placements, internships and community outreach projects are valuable opportunities for students to apply their knowledge in real contexts and develop practical skills. These experiences also allow students to reflect on their own training and adjust their professional goals and expectations (Pacheco et al., 2020).

The role of research in competence formation is also fundamental. Research not only contributes to the advancement of knowledge but is also a powerful tool for competence development. Students who participate in research projects have the opportunity to develop analytical skills, critical thinking and creativity. In addition, research fosters an attitude of curiosity and continuous learning, which is essential for long-term professional development. Finally, this paper is structured by the research methodology, the referenced results, the conclusions, the discussion and the bibliographical support.

## Methodology

The methodology employed in this study focused on an exhaustive review of the existing literature on competences in higher education, specifically in the Ecuadorian context. A

systematic search was carried out in various academic databases such as Web of Science, Scopus and Google Scholar, using keywords such as “competences”, “higher education”, “Ecuador”, “academic training” and “labour market”. The selection of papers was based on criteria of relevance, timeliness and quality, ensuring that the literature reviewed provided a comprehensive and up-to-date view of the topic (Velastegui, Poler, & Díaz-Madroño, 2023).

The review process involved several stages. Firstly, an initial assessment was made of the titles and abstracts of the identified documents to determine their relevance to the topic of study. Those documents that met the inclusion criteria were analysed in depth, extracting relevant information on the generic and specific competences developed in higher education, the teaching and assessment methodologies employed, and the educational policies in force in Ecuador. In addition, special attention was paid to studies offering international comparisons or presenting success stories in the implementation of competences in other contexts, in order to identify good practices and lessons applicable to the Ecuadorian context (Velastegui, Poler, & Díaz-Madroño, 2023).

Finally, the information gathered was organised and synthesised thematically to identify patterns, trends and gaps in the literature. A conceptual framework was developed that integrates the most relevant findings and provides a solid theoretical basis for the analysis of competences in higher education in Ecuador. This methodology allowed not only an in-depth understanding of the current state of competences in the country, but also the identification of key areas that require attention and future research, thus contributing to the development of more effective educational strategies aligned with the needs of the labour market and national development.

## Results

The detailed analysis of the literature and data collected in this study on competences in higher education in Ecuador has enabled

a series of key findings to be identified, classified into several categories: generic and specific competences, teaching and assessment methodologies, educational policies, and challenges and opportunities in the Ecuadorian context (Orellana et al., 2019). These findings are presented below in a comprehensive manner, providing a holistic view of the current state and areas for improvement in the development of competences in the country's higher education system.

### Generic Competences

Generic competences, also known as transversal competences, are those skills and knowledge that are not limited to a specific field of study but are applicable in a variety of situations and contexts (Torres-Díaz et al., 2015). In Ecuador, the development of these competences has been recognised as a strategic priority to ensure that graduates of higher education institutions can adapt to the changing demands of the labour market and face contemporary challenges. One of the most prominent findings is the importance attributed to the competences of critical thinking and problem solving (Guerrero et al., 2022).

The reviewed literature and empirical data suggest that these competences are highly valued by both educational institutions and employers. However, there are significant variations in the way these competences are taught and assessed in different universities. Some institutions have implemented innovative pedagogical methodologies, such as problem-based learning (PBL) and collaborative learning, which have proven to be effective in developing these competences. However, other institutions still rely on traditional teaching methods, which may not be as effective in fostering critical thinking and problem solving (Trujillo, 2023).

Effective communication is another crucial generic competence identified in this study. The data indicate that while most universities recognise the importance of this competence, its integration into the curriculum varies considerably. Some institutions have incorporated specific communication courses,

while others have chosen to integrate the development of this competence into existing courses through presentations, discussions and written assignments. Despite these efforts, the results suggest that many students still face significant challenges in this area, especially with regard to written and oral communication in professional contexts (Guacho et al., 2021).

The ability to work in teams and collaboration are competences that also emerge as essential. The literature highlights that these competences are particularly relevant in a world of work that increasingly values interdisciplinarity and the ability to work in diverse groups. However, the data suggest that, although their importance is recognised, not all educational institutions have developed effective strategies to foster these skills. In many cases, students report a lack of opportunities to develop teamwork competences in a practical and structured way (Javier et al., 2017).

Another generic competence of growing relevance is digital competence. In an increasingly digitalised world, the ability to use technological tools and adapt to new platforms is essential. The data indicate that, although there is general recognition of the importance of digital competences, their implementation in the educational curriculum is uneven. Some universities have made significant progress in integrating information and communication technologies (ICT) into their programmes, offering specific courses and using digital platforms for learning. However, other institutions, especially those with fewer resources, face challenges in implementing these technologies effectively.

### Specific Competences

Specific competences are those skills and knowledge directly related to a field of study or profession. In the Ecuadorian context, the formation of these competences varies significantly according to the discipline and the educational institution (Ely et al., 2015). The study reveals that technical and technological universities tend to focus more

on the development of specific skills through the integration of internships and the use of specialised laboratories and workshops. These institutions tend to have a closer relationship with the industrial and business sector, which facilitates the alignment of their academic programmes with the needs of the labour market (Pedrera, 2014).

In contrast, more traditional universities, especially in areas such as the social sciences and humanities, face greater challenges in integrating specific competencies into their curricula (Arteaga-Briones et al., 2023). Evidence suggests that while these institutions recognise the importance of specific skills, they often lack the resources and infrastructure to provide practical learning experiences. This results in a gap between the theoretical knowledge imparted and the practical skills required by employers (Serrano de Moreno et al., 2024).

One area of particular interest is digital skills training. Rapid technological evolution has created a growing demand for professionals who are not only technically savvy, but also able to adapt quickly to new digital tools and platforms. In this respect, the results suggest that higher education institutions in Ecuador are making considerable efforts to integrate digital skills into their academic programmes (Serrano de Moreno et al., 2024). However, there are significant disparities between different institutions and regions. Urban and better-resourced universities tend to be better equipped to offer digital skills training, while institutions in rural or resource-constrained areas face greater challenges in this area (Arteaga-Briones et al., 2023).

In addition, specific skills in high-demand areas, such as engineering, information technology and health sciences, show greater alignment with labour market needs. Institutions offering programmes in these fields tend to have more up-to-date curricula and close links with industry, which facilitates the incorporation of emerging practices and technologies into students' education. However, in fields such as the social sciences and humanities, the updating of curricula and the integration of specific skills

is often slower, which can limit employment opportunities for graduates in these areas (Alvarado & Malvarez, 2023).

### Teaching and Evaluation Methodologies

The study revealed a diversity of teaching and assessment methodologies employed for competence development in higher education in Ecuador. While there are notable pedagogical innovations, areas for substantial improvement were also identified (Torres-Diaz et al., 2015).

Project-based learning (PBL) and problem-based learning (PBL) emerge as effective methodologies for the development of both generic and specific competences. These methodologies promote active, student-centred learning, facilitating the acquisition of competences through real-world problem solving and collaborative projects. Data suggest that institutions that have implemented these methodologies report positive results in terms of competence development, especially in technical and technological areas (Orellana et al., 2019).

However, despite the proven benefits of these methodologies, their implementation is not uniform across institutions. Many universities still rely heavily on traditional teaching methods, such as lectures and written exams, which may not be as effective in developing practical skills. Students at these institutions often report a lack of opportunities to apply their knowledge in practical contexts and receive constructive feedback on their performance (Espinosa et al., 2022).

The assessment of competences also presents significant challenges. Evidence indicates that while there is general recognition of the importance of assessing competences in a holistic manner, many institutions lack adequate tools and approaches to do so. Traditional assessments, which focus primarily on theoretical knowledge, do not effectively capture the development of practical and transversal competences. Some academic programmes have started to implement portfolios, projects and competency-based assessments as part of their

evaluative approach, but these efforts are still limited and require further systematisation and institutional support (Pacheco et al., 2020).

An emerging teaching methodology that has shown promising results is inquiry-based learning (IBL), which involves students actively participating in research projects, enabling them to develop specific and cross-cutting skills in a practical and applied context. Data suggest that institutions that have incorporated IBL into their curricula report an improvement in students' analytical skills, critical thinking and problem-solving abilities. However, implementing IBL requires significant investment in research infrastructure and teaching support, which can be a challenge for many institutions (Jameson, 1999).

### Educational Policies

Education policies in Ecuador have had a significant impact on skills training in higher education. La Ley Orgánica de Educación Superior (LOES), reformed in 2018, establishes clear guidelines for skills training and assessment, promoting relevant, inclusive and quality education. However, the implementation of these policies presents both progress and challenges (Jameson, 1999).

One of the most notable advances is the creation of quality assurance mechanisms, such as the accreditation of academic programmes and institutional evaluation. These mechanisms have encouraged universities to review and improve their curricula, incorporating competence development as a central component (Aguirre et al., 2023). In addition, education policies have encouraged collaboration between higher education institutions and the productive sector, promoting professional practices, internships and community outreach projects. Despite these advances, the data indicate that there are still significant challenges in the effective implementation of education policies. Lack of financial and human resources is a major obstacle for many institutions, especially those located in rural or less resourced regions. In addition, bureaucracy and administrative rigidity often

hinder the adoption of pedagogical innovations and the adaptation of curricula to the changing needs of the labour market (Aguirre et al., 2023).

Education policy must also address equity and inclusion more effectively. While efforts have been made to expand access to higher education, significant barriers remain for students from marginalised groups, including those from low-income, indigenous communities and people with disabilities. Skills training must be accessible to all students, which requires continued attention to inclusion policies and student support (Clavijo Castillo & Bautista-Cerro, 2020).

Another crucial aspect of education policy is the promotion of internationalisation. Academic mobility, international partnerships and collaboration in research projects can enrich skills training by providing students and teachers with a global perspective and opportunities to develop intercultural competences. However, participation in international programmes remains a logistical and financial challenge for many institutions in Ecuador, especially those with limited resources. Education policies should address these barriers and encourage greater internationalisation of the higher education system (Post, 2011).

### Challenges and Opportunities

The study identified several challenges and opportunities in the Ecuadorian context that impact competence formation in higher education. One of the most significant challenges is the gap between theory and practice. Although institutions recognise the importance of practical skills, integrating them into the curriculum remains a challenge. Students often lack sufficient opportunities to apply their knowledge in real contexts and receive meaningful feedback. Rapid technological developments present both challenges and opportunities (Mendoza et al., 2014).

On the one hand, the need to develop digital competences is becoming increasingly urgent. On the other hand, information and



communication technologies (ICT) offer powerful tools for learning and competence assessment. Institutions that can adapt quickly to these technologies and use them effectively have a significant advantage in developing competences relevant to today's labour market (Jameson, 1997). Internationalisation is another area with significant potential. Academic mobility, international partnerships and collaboration in research projects can enrich skills training by providing students and teachers with a global perspective and opportunities to develop intercultural competences. However, for many institutions in Ecuador, especially those with limited resources, participation in international programmes remains a logistical and financial challenge (Johnson, 2017).

An additional challenge is the need for greater collaboration between higher education institutions and the productive sector. While there are efforts to foster this collaboration, evidence suggests that there is still a disconnect between the skills developed at universities and the skills required by employers. The creation of advisory councils with industry representatives, the implementation of dual education programmes and the promotion of applied research are some of the strategies that can help to bridge this gap. In addition, the diversification of teaching and assessment methodologies is crucial to address the diverse needs of students and the labour market (Saavedra, 2012). The adoption of innovative pedagogical approaches, such as project-based learning, problem-based learning and inquiry-based learning, can significantly enhance competence development. However, implementing these methodologies requires investment in teacher training, infrastructure and resources, which can be a challenge for many institutions (Post, 2011).

## Conclusions

The analysis of competences in higher education in Ecuador is a complex and multifaceted process that requires the collaboration of all actors involved. Competency development is not only essential for the professional development of students, but also

for the progress and competitiveness of the country. Through continuous and systematic evaluation, it is possible to identify strengths and weaknesses in academic training, and to design effective strategies to improve the quality of higher education. This study seeks to contribute to this objective by providing a detailed and evidence-based analysis of the competencies developed in Ecuador's higher education system, and by offering recommendations for their strengthening and continuous improvement. Investment in skills development is ultimately an investment in the future of the country and in the capacity of its citizens to face the challenges of the 21st century successfully and resiliently.

The diversity of teaching and assessment methodologies employed in competence development shows both remarkable innovations and areas for substantial improvement. The implementation of active and student-centred methodologies, such as project-based learning and problem-based learning, has proven to be effective, but their adoption is not uniform across institutions. Competence assessment also presents challenges, as traditional assessments do not effectively capture the development of practical and transversal competences.

Education policies in Ecuador have had a significant impact on skills development, with notable progress in creating quality assurance mechanisms and promoting collaboration between higher education institutions and the productive sector. However, effective implementation of these policies faces challenges, including lack of financial and human resources, bureaucracy and the need to address equity and inclusion more effectively.

The study identified several challenges and opportunities in the Ecuadorian context that impact skills development in higher education. The gap between theory and practice, rapid technological evolution, internationalisation and the need for greater collaboration between higher education institutions and the productive sector are key areas that require attention. Diversification of teaching and assessment

methodologies is also crucial to address the diverse needs of students and the labour market.

## Discussion

The analysis of competences in higher education in Ecuador shows a mixed picture with notable progress and significant challenges. On the one hand, generic competences such as critical thinking, effective communication and teamwork are widely recognised and valued. However, the implementation of these competences varies considerably between educational institutions. Some universities have adopted innovative pedagogical methodologies that promote the development of these skills, while others continue to use traditional methods that may not be as effective. This disparity raises questions about the equity and quality of higher education in the country, as students do not have access to the same opportunities for skills development.

In terms of specific competences, technical and technological universities seem to be better aligned with the needs of the labour market, integrating professional practices and emerging technologies in their academic programmes. This contrasts with more traditional universities, especially in the social sciences and humanities, which face greater difficulties in updating their curricula and offering practical experiences. This discrepancy suggests an urgent need to reform and adapt academic programmes in these areas to ensure that all graduates are well prepared for the demands of the labour market.

Teaching and assessment methodologies also present significant challenges. Although active methodologies such as project-based learning and problem-based learning have proven to be effective for competence development, their adoption is not uniform across institutions. Reliance on traditional teaching methods remains prevalent, limiting students' ability to apply knowledge in real-world contexts. In addition, traditional assessments focused on theoretical knowledge do not effectively capture the development of practical and cross-cutting

skills, underlining the need for more holistic and competency-oriented assessment approaches.

Education policies have established important frameworks for skills training, but their implementation faces significant obstacles, such as lack of resources and administrative rigidities. The gap between theory and practice, rapid technological change and the need for greater collaboration between educational institutions and the productive sector are critical areas that require continued attention. A coordinated approach and sustained investment in pedagogical innovation, educational resources and inclusive and adaptive policies are essential to improve skills development in Ecuador's higher education.

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