

## Infusing Soft Skills in Higher Education: Key to the Development of Advanced Human Capital

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### Abstract

The field of higher education is under unprecedented pressure as it needs to prepare students for active participation in the workforce. Today, employers seek professionals who demonstrate soft skills - personal qualities that make them more adaptable, proactive, resilient and responsible collaborators. The aim of this article is to open the debate regarding the infusion of soft skills the curriculum of Higher Education Institutions (HEIs) and its impact on the future employability of graduates. This relates to the demands of the job market and the current emphasis placed on the development of socio-emotional skills. The methodology used consisted of documentary analysis, confronted with the author's viewpoints. The contribution relates to the need to infuse soft skills into the curriculum and implement methodological and evaluative strategies that enhance educational proposals. The article concludes with a synthesis, attempting to explain the relationships between key concepts and their implications for higher education.

**Keywords:** Active learning; Learning outcomes; Student engagement; Higher education.

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### Introduction

The knowledge economy thrives on the participation of individuals equipped with a diverse range of qualifications and socio-emotional skills, enabling them to adapt to the ever-evolving demands of the labor market. It is widely acknowledged that soft skills play a crucial role in facilitating effective adaptation and behavior (Cinque, 2016). Considering the new global order, numerous challenges come to the forefront, including market volatility, heightened uncertainty, intense competition, knowledge obsolescence, demographic and social changes, shifting economic power dynamics, sustainability concerns, resource scarcity, and rapid technological advancements, among others. According to the Organization for Economic Cooperation and Development (OECD, 2011), this evolving landscape necessitates professionals who can embrace change, generate creative solutions, and readily embrace new challenges.



Consequently, the development of soft skills becomes of paramount interest for higher education curricula. Locally and globally, there is an urgent need to cultivate high-quality human capital capable of adapting to an increasingly demanding and dynamic labor market. Higher education institutions (HEIs) must therefore devise strategies to enhance the socio-emotional skills of their graduates, enabling them to navigate the fluctuations of the job market with ease. Incorporating cross-cutting skills not only enhances employability but also fosters a global perspective on employment. Ultimately, an education system that places emphasis on job skill development is crucial for the personal and national growth of individuals.

This necessitates the establishment of a high-quality higher education system that is thoughtfully designed and meticulously planned, with the goal of nurturing in students not only traditional hard skills (technical or disciplinary knowledge) but also, complementary, a robust set of soft skills (employability tools) that prepare them for successful performance in the workforce.

In today's industry, there is an increasing demand for highly effective professionals who can seamlessly integrate their technical knowledge with their socio-emotional skills to solve complex problems. Unfortunately, some university classrooms still employ teaching practices that primarily focus on the transmission of conceptual content (knowing), neglecting to cultivate students' inquiry skills (learning to know), transferable skills (learning to do), collaborative abilities (learning to live together and work with others), and metacognitive capacities (learning to be) as essential strategies for continuous improvement.

Seen from another perspective, the above represents an important opportunity in terms of social impact and inclusivity, which has prompted many universities and professional institutes to create spaces in their curricula to include preparation for the world of work. Moreover, at the international level, significant initiatives can be observed in curriculum proposals, although the time dedicated to the development of soft variables seems to not fully meet the demands of the labor market (CRS, 2022; Vera, 2023b). On the other hand, at the local level, the Chilean National Accreditation Commission (CNA-Chile) emphasizes the need for study plans to include the development of cross-cutting or generic competencies, such as oral and written communication, critical thinking, problem-solving, interpersonal relationships, self-learning and personal initiative, teamwork, and the use of information technologies (CNA-Chile, 2015).

Considering the evidence, soft skills are increasingly seen as necessary in technical and professional education, as they add value and a competitive advantage to those entering the workforce. Furthermore, it is said that the transmission of knowledge per se is no longer as important as it once was because amid the knowledge society, knowledge can be acquired at any time, and since it is ubiquitous, it is universally available and accessible to all. Therefore, everything indicates that socio-emotional skills constitute the differential mark that the world of work currently seeks as advanced human capital.

Data shows that the labor market has evolved towards an interpersonal dynamic that simply cannot be ignored. Undoubtedly, the industry seeks effective, proactive, and resilient professionals who can strategically complement their technical knowledge with their socio-emotional skills. There is also a clear need to recruit a more emotionally intelligent workforce that knows how to build and maintain healthy and positive work relationships, as this is the key to building successful inter, multi, and transdisciplinary teams. Among these perspectives, soft skills are currently highly valued by employers, as it is recognized that they are directly linked to high performance and, therefore, are essential for achieving the desired outcomes of a company.

In this context, one of the strategic actions recommended to HEIs is to redesign their educational models according to the needs of the labor market. However, significant weaknesses are still detected in academic proposals. In fact, many programs still emphasize traditional technical skills, neglecting the development of non-cognitive or complementary skills. This article aims to identify the soft skills required for the world of work and how they are addressed in the curriculum. Additionally, a set of best practices for the infusion and development of these abilities in tertiary education is presented.

### *Defining soft skills*

Soft skills, also known as transferable skills or non-cognitive skills, encompass a range of specific abilities that have a significant impact on job performance, career advancement, and overall success. These skills are often referred to by various names, such as 21st-century skills, employability skills, or socio-emotional skills, highlighting their relevance in today's professional landscape. Regardless of their terminology, soft skills primarily involve social and interpersonal competencies that enable individuals to thrive in diverse environments and transfer their learning across different fields.

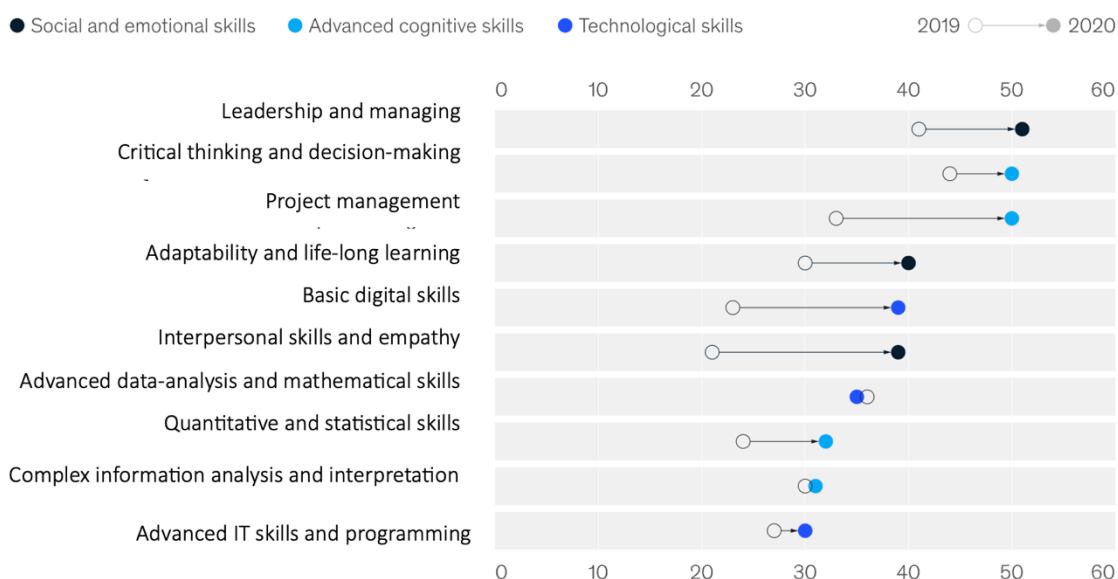
Moreover, soft skills extend beyond the realm of professional achievement and have a profound impact on personal happiness and fulfillment. Research by Cinque (2015) suggests that cultivating soft skills is closely linked to developing habits that enhance both work effectiveness and personal well-being. As a result, organizations recognize the value of these skills not only during the recruitment process but also throughout an employee's entire career trajectory.

The varied interpretations and conceptualizations of soft skills in the literature reflect their multidimensional nature, encompassing attitudinal, behavioral, and cognitive components. In addition to their core qualities, soft skills give rise to other interpersonal characteristics such as self-regulation, metacognition, self-efficacy, social etiquette, emotional intelligence, adaptability, systemic thinking, assertive communication, problem-solving, creativity, and similar traits. These diverse attributes collectively contribute to an individual's overall effectiveness in navigating professional and personal challenges.

As a matter of fact, the meaning of soft skills cannot be overstated, as they serve as essential building blocks for success in the modern workplace and beyond. By recognizing and nurturing these competencies, individuals can enhance their performance, career prospects, and overall satisfaction in life. Thus, the multiplicity of meanings and the ways in which these skills are conceptualized in the literature reflect the fact that they encompass attitudinal, behavioral, and cognitive components. Given their generative nature, the truth is that these differential abilities entail other interpersonal characteristics such as self-regulation, metacognition, self-efficacy, social customs, emotional intelligence, adaptability, systemic thinking, assertive communication skills, problem-solving abilities, creativity, and similar traits.

Figure 1 presents the assessment that the industry assigns to non-cognitive skills, highlighting the skills that are highly valued and given priority. Among these skills, 'Leadership and managing others' are highly valued and prioritized. Other skills that deserve attention from the educational sector are 'Adaptability and continuous learning', as well as 'Interpersonal skills and empathy'. Overall, it can be observed that non-cognitive skills, considered critical success factors, are rated more highly by employers than technical or cognitive skills, as it occurs in Higher education. This underscores the importance of developing leadership qualities and the ability to guide and inspire others in the educational context.

**Figure 1: Skills mostly valued in the industrial sector**



Source: Own adaptation based on McKinsey Global Survey on reskilling (2021).

Note: Out of 25 skills that were offered as answer choices ( $n=700$ ).

Based on the analyzed literature, it can be concluded that in Western countries, there are multiple attempts to develop definitions of soft skills. However, three common characteristics are observed in all of them: (i) increasing productivity and competitiveness among markets; (ii) developing an adaptive and skilled workforce, and (iii) creating an environment conducive to innovation in a world dominated by globalization.

In fact, various studies indicate that non-cognitive skills have predictive power for job success, while cognitive skills are predictors of academic performance (Chinotti, 2015; de Boer & Van Rijnsoever, 2022). It is precisely this conceptual duality that distinguishes the logic between soft skills and technical or hard skills. In this same line, it specifically refers to the abilities, capacities, and traits that belong to our personality, attitude, and behavior rather than our technical knowledge (Vera, 2021; Vera *et al.*, 2022) or those individual abilities or skills that are necessary for achieving success in life in various socio-cultural contexts (Vera & Tejada, 2020).

Additionally, it could be stated that socio-emotional skills are the intra- and interpersonal or socio-emotional abilities that are essential for personal development, socialization, and career success (Kechagias, 2011). It is also important to emphasize that effective performance or competent action involves mobilizing knowledge, cognitive skills, and practices, as well as attitudes, emotions, values, and motivations (OECD, 2001). In this regard, it is estimated that a person's success rate at work depends on their Emotional Quotient (EQ) and Intelligence Quotient (IQ) at an 80:20 ratio. This is explained by the fact that EQ helps individuals build and maintain relationships with peers and superiors, increase productivity, and communicate effectively.

As Goleman (2011) points out, "at best, IQ contributes about 20% to the factors that determine success in life, leaving the rest to other forces" (p. 54). This perspective reinforces the idea that non-cognitive skills pave the way in a complex world and are essential for effective performance in social and work-related functions. In this regard, the author's perspective is that soft skills can be seen as a non-cognitive component of cognitive achievement and as part of metacognitive thinking. For instance, students who come to class without having reviewed the content beforehand, who do not question their levels of achievement, or who simply show no interest in learning may exhibit low levels of metacognition, which, in turn, would likely hinder their cognitive achievements (e.g., academic performance, task completion, timely graduation, degree attainment).

Based on all the above, it can be emphasized that non-cognitive skills contribute to the development of high-quality human capital and, by their nature, serve as a platform for not only academic but also professional success. For this reason and understanding that these capabilities are essential for employability and therefore need to be developed, their training is entrusted, for obvious reasons, to higher education institutions (HEIs). After all, it is undeniable that these institutions play a crucial role in the process of transforming individuals.

Moreover, the well-being of a country and its growth prospects are largely measured in terms of human talent. In fact, there is already talk of the 'human era,' where talent and distinctive traits are the drivers of business success. Despite this, evidence seems to indicate that graduates may not be meeting the demand for competencies and attitudes observed in the world of work (Juen, Pang & Vitale, 2010; Maxwell, 2007). At the local level, university professors still complain that their undergraduate students demonstrate low socio-emotional skills. Considering this situation, it is not surprising that HEIs are currently facing the challenge of shifting from teaching to learning and integrating both cognitive and non-cognitive skill development into their curricula.

Now, the importance of shifting the focus from teaching to learning is crucial to adequately prepare students for the world of work. Indeed, it is expected that students acquire both technical skills and soft skills simultaneously. These soft skills would enable them to continue learning throughout their lives (long-life learning). Therefore, these capabilities should not only be learned in academic contexts but also outside of them, in personal and social life. In this regard, the Bologna process has emphasized the importance of paying greater attention to learning processes and the development of what are also called "lifelong skills".

Similarly, to bridge the gap between academia and the productive sector, teachers are urged to ensure that, beyond technical knowledge, they make the necessary efforts to integrate cross-cutting skills into the curriculum as part of undergraduate training strategies (Gerwertz, 2007; Olsen, 2007; Nagle, 2010). This places these skills on the list of priorities that should be considered in any curriculum design or adjustment aimed at preparing students for the world of work. Furthermore, it is believed that this strategic decision would allow for the fulfillment of three common objectives: (i) preparing students for successful performance in the labor market, (ii) producing highly skilled professionals, and (iii) competing in a global economy. To meet these objectives, firstly, it is necessary to integrate these differential capacities into the curricula, either as independent formative actions or as transversal elements in the study programs. Secondly, it is necessary to infuse these capacities through highly practical activities that emulate work situations or contexts.

Considering this complex panorama, one of the main dilemmas that curriculum designers face is precisely determining which soft skills to include in academic programs. Thus, regardless of institutional decisions, the literature reviewed so far has identified that many curriculum proposals share the following seven soft skills or socio-emotional skills: effective communication, critical thinking, problem-solving, teamwork, lifelong learning, entrepreneurship, and leadership. At the same time, to facilitate the infusion processes, it is suggested to break down each of these skills into a set of sub-skills or categories of micro-implementation, where the first category corresponds to the soft skills that are considered "necessary" to possess, and the second category to those that are deemed "desirable" to demonstrate, as shown in Table 1.

**Table 1:** *Necessary and desirable soft skills*

Soft skills	Necessary soft skills	Desirable soft skills
Effective communication	<ul style="list-style-type: none"> <li>Ability to express ideas clearly and effectively, both orally and in writing.</li> </ul>	<ul style="list-style-type: none"> <li>Ability to discuss and reach consensus.</li> <li>Ability to communicate with people from diverse cultures.</li> </ul>
Critical thinking and problem-solving.	<ul style="list-style-type: none"> <li>Ability to identify and analyze problems in challenging situations.</li> </ul>	<ul style="list-style-type: none"> <li>Ability to think beyond the solution.</li> <li>Ability to compare problematic situations.</li> </ul>
Teamwork	<ul style="list-style-type: none"> <li>Ability to interact and work effectively with others.</li> </ul>	<ul style="list-style-type: none"> <li>Ability to contribute ideas and inputs to the team.</li> <li>Ability to coordinate collaborative work.</li> </ul>
Life-long learning	<ul style="list-style-type: none"> <li>Learning to self-educate autonomously and throughout life.</li> </ul>	<ul style="list-style-type: none"> <li>Ability to seek new knowledge.</li> <li>Ability to relate experiences to new learning.</li> </ul>
Entrepreneurship	<ul style="list-style-type: none"> <li>Ability to identify work/business opportunities.</li> </ul>	<ul style="list-style-type: none"> <li>Ability to propose new businesses.</li> <li>Ability to self-employ.</li> </ul>
Leadership	<ul style="list-style-type: none"> <li>Ability to influence others.</li> </ul>	<ul style="list-style-type: none"> <li>Ability to lead and be led.</li> <li>Ability to supervise team members.</li> </ul>
Systems thinking	<ul style="list-style-type: none"> <li>Ability to see the big picture and take the broader context into account.</li> </ul>	<ul style="list-style-type: none"> <li>Ability to comprehend the relationships, patterns and dynamics within a system, considering both its components and their interactions.</li> <li>Ability to identify feedback loops, understanding the consequences of actions, and finding leverage points for intervention.</li> </ul>

Source: Own elaboration.

### *Soft skills gap*

According to the literature reviewed, companies are more concerned than ever about the perceived gap between technical knowledge and the socio-emotional skills of young people entering the workforce. This is justified by the fact that these skills are considered crucial for professional success and business competitiveness. Moreover, there is overwhelming consensus among employers that the new workforce lacks skills in effective communication, creative problem-solving, collaborative work, and adapting to changing market conditions (Gerwertz, 2007; Olsen, 2007; Nagle, 2010; Chan, Goh & Prest, 2015). Apart from the mentioned "relational skills," employers also find that recent graduates lack certain hard skills associated with specific tasks (Chan *et al.*, 2015).

One possible reason deals with changes in the industry, which are much faster than those occurring in educational systems, and the need to train professionals with higher qualifications. More precisely, the literature reports that one in five workers in OECD member countries is overqualified for the positions they hold, while a similar proportion is underqualified. The prevalence of this mismatch or educational mismatch not only poses a problem for educators but also imposes a significant burden on companies that need to recruit a workforce equipped with the skills that society requires today and likely in the future (Chan *et al.*, 2015).

In the organizational sphere, when teams show a significant gap in their soft skills, it is highly likely that very negative consequences will occur in companies: there are coordination issues, misunderstandings arise, procrastination increases, the work environment suffers, functional silos emerge, productivity decreases, more mistakes are made, communication fails, people get stressed, service quality deteriorates, conflicts arise, employee turnover increases, and, to make matters worse, there is a significant leakage of talented individuals. Therefore, a common characteristic in the educational shortcomings of graduates is the great need for training in employability skills. This "competency gap" is currently a topic of great interest, both in the industrial and educational sectors. For example, in Latin America, it is estimated that while unemployment remains high, many positions remain vacant because professionals with the necessary socio-cognitive skills are not available to fill them (Bassi, Busso, Urzúa & Vargas, 2012). Similarly, at a global level, the same need is evident, with employers concerned about the lack of competent workforce (ManpowerGroup, 2013).

In practice, all the above translates into employers likely preferring professionals with higher socio-emotional development, even for jobs that do not require high specialization (McGuinness, 2006). This indicates a significant mismatch or disconnect between the demands of the labor market and academic proposals (Bassi *et al.*, 2012). Therefore, the issue of the competency gap has two dimensions: the demand for a qualified workforce and the academic offering of training in socio-emotional skills. The author of this article commonly refers to this phenomenon as a "selective sieve," as it functions as a true filter to accept or reject candidates for a particular job (Who has a competitive advantage?). Ultimately, it would be a symptom of vertical mismatch between levels of professional qualifications (development of non-cognitive skills).

Furthermore, consolidated data (Table 3) from a study conducted by the U.S. Chamber of Commerce Foundation in 2015 in 10 counties in the southwest region of Pennsylvania indicate that 77% of recent graduates and 80% of employers find soft skills mastery important for job success. All of this suggests that the integration of non-cognitive tools in the curriculum is a formative necessity within the current economic and educational system.

Coincidentally, it is estimated that soft skills are associated with higher employability and a lower likelihood of academic repetition (Heckman, 2012; Salvatierra, 2015). In fact, measuring non-cognitive skills has predictive validity for good job performance and helps teachers better understand and value the relevance of developing these abilities in students, not only to enhance their professional development but also to significantly reduce social inequality and contribute to a noticeable decrease in the unemployment rate.

Considering this scenario and to facilitate decision-making regarding the development of advanced human capital, the following set of guiding questions is proposed for horizontal and vertical organizations to consider, as shown in Table 2.

**Table 2:** *Guiding questions for horizontal and vertical organizations*

Horizontal organizations	Vertical organizations
<ul style="list-style-type: none"> <li>• What are the qualifications that your company values most in the recruitment process for key personnel?</li> <li>• How would you characterize the availability of these qualifications among job candidates?</li> <li>• To what extent does your company take responsibility for ensuring that its employees demonstrate these operational capabilities?</li> <li>• Does your company's recruitment program cater to the development of emotional skills?</li> </ul>	<ul style="list-style-type: none"> <li>• What difficulties does your organization face in integrating the development of socio-emotional skills?</li> <li>• Is your personnel directly linked to the needs of the business sector?</li> <li>• Which productive sectors are likely to require highly trained professionals in socio-emotional skills?</li> <li>• What is the role of educational service providers in the development of highly skilled professionals?</li> </ul>

Source: Own elaboration

### *Infusing soft skills into the curriculum*

Infusion of soft skills refers to the development of these abilities through modeling (where the teacher describes the skill, breaks it down, and models it) and active learning (where students actively engage in acquiring knowledge and skills). The idea behind this concept is to create a learning environment that ensures not only academic education but also the integrity of the student. In this regard, it is believed that traditional lectures and assessment methods hinder effective learning and limit the development of non-cognitive skills. Ultimately, through infusion processes, students are encouraged to exert effort and self-correct to succeed.

In this scenario, the review of the literature identifies two schools of thought regarding the infusion of non-cognitive skills: generalists and specialists. For "generalists," these skills can be learned separately from disciplinary content, while for "specialists," they can only be taught as part of the disciplinary subjects, as knowledge is fundamentally situated (Kechagias, 2011). Therefore, it could be inferred that socio-emotional skills could be infused into the university curriculum in three ways: (i) direct approach, (ii) metacurricular approach, and (iii) mixed approach, as explained briefly below:



- (i) **Direct approach** - direct infusion of skills through a set of cross-cutting courses. Generally, these courses are part of the requirements in academic programs and are presented as a formative hallmark, but they must be completed like courses in other disciplines. From the teacher's perspective, this approach requires intensive preparation, adherence to a specific methodology, and compliance with a certain professional profile and personal attributes. As for the students, they need to actively engage in their learning.
- (ii) **Metacurricular approach** - infusion of skills through the methodological and evaluative strategies of all subjects comprising a curriculum. This approach involves integrating skills across different areas of knowledge or curriculum cores, as well as in various study materials. It also requires ongoing teacher professional development. It is a comprehensive approach that addresses academic content from a curricular three-dimensionality (conceptual, procedural, and attitudinal content).
- (iii) **Mixed approach** - a combination of both approaches. This approach is more complex and costly to implement, as it requires continuous training for teachers, both in the cross-cutting area and other disciplinary areas, to achieve the desired academic convergence.

In line with the above, and to question reality, teachers are invited to engage in reflective and metacognitive exercises, attempting to answer the following preliminary questions:

- Why acquire soft skills?
- Am I prepared to develop differential capabilities in students?
- How do I assess my own development of socio-emotional skills?
- What cognitive load does the development of soft skills require?
- What are the sub-skills to be developed, according to the needs of the student?
- What should the student know and understand to achieve the performance described in each of the performance criteria of the respective skill?
- What teacher and student factors facilitate or hinder the development of soft skills?
- What transformative changes need to be made to enhance individual differential traits?

As seen in the literature analyzed, systematic questioning is the basis for the continuous improvement of the teaching practice. From this viewpoint, for teachers to acquire knowledge, they need genuine, extensive, and consistent experiences that directly relate to their daily responsibilities (Manfra, 2019). More specifically, questioning the reality is an integral component of metacognition, considered key in the development of non-cognitive skills. In fact, this characteristic of some teachers is the most important personal variable in the development of soft skills (Patrut & Patrut, 2015). Tasks such as planning and thinking aloud, asking challenging questions, self-evaluating learning, planning for learning, seeking additional information, drawing on past experiences, etc., are essential parts of metacognition.

In other words, metacognitive teachers inevitably transfer this distinctive trait to their students, enabling them, in turn, to recognize what they know, discover what they don't know, and propose respective remedial actions (Cao & Nietfeld, 2007). Through metacognition, students can effectively control their learning, think critically and reflectively, act autonomously, solve problems, make decisions, and determine the strategies they need to successfully achieve their learning objectives. It should be noted that all these aspects are crucial when transferred to the world of work.

In perspective, highly metacognitive young people are aware of the demands of the job market and recognize that it is becoming increasingly competitive. Therefore, they prepare themselves, observe their environment, look for patterns of behavior, self-correct, and study the evolution of employment. On the other hand, students with lower levels of metacognition often learn new concepts by memorizing them in an isolated and superficial way, without being able to transfer them to practical or real-life situations. Hence, it tends to be asserted that the directive or frontal classroom approach only produces content accumulators, rather than individuals with differential personal traits capable of applying, deepening, sharing, and managing what they have learned.

Furthermore, evidence indicates that metacognition is not an automatic process, since it can be transferred as part of a broader concept referred to as self-regulated learning (Zimmerman, 2002). This means that if teachers are self-regulated, they will also shape self-regulated individuals. It is often said that self-regulation is essential in the development of socio-emotional skills and is the hallmark of highly effective individuals, understood as those who can modify, monitor, and organize information to apply it in other contexts and situations. Now, there also seems to be a direct relationship between soft skills and metacognition, as both contribute to quality learning, academic success, and outstanding job performance (Laskey & Hetzel, 2010).

#### *Model for implementation of soft skills in higher education*

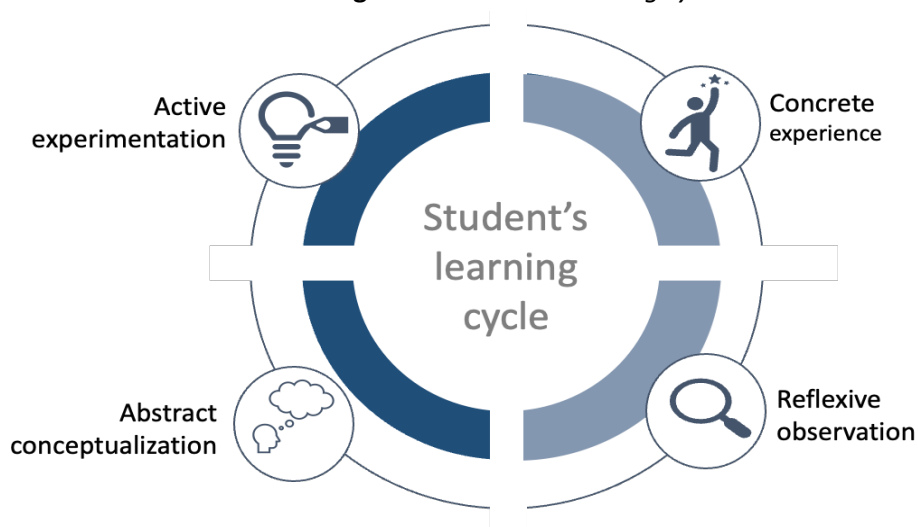
Given the current educational scenario and considering the contextual reality, the author proposes a holistic approach to address the infusion of non-cognitive skills in post-secondary students. This involves integrating them at the micro-implementation level, both in direct and metacurricular manner. From this perspective, students could acquire these skills explicitly (formal curriculum) and implicitly (hidden curriculum), with an emphasis on active learning through simulated (in-class activities) or real-life situations (out-of-class activities). Together, this approach would enable students to structure their career goals better and more systematically and actively engage in planning their own learning. However, one might ask, "Are teachers prepared to integrate non-cognitive skills into their disciplinary curriculum proposals?" Despite significant efforts being observed, it seems that there is still a long way to go in terms of paradigmatic change.

Conceptually, the holistic approach entails: (i) focusing education on the needs of students; (ii) defining a set of macro soft skills that respond to the demands of the job market; (iii) developing the required instructional resources for direct teaching; and (iv) defining the methodological and evaluative strategies to be applied in developing these skills, both from a direct and metacurricular perspective. The idea behind this approach is to create learning environments that ensure the comprehensive education of students (acquiring both hard and soft skills simultaneously). To achieve this, the implementation of experiential learning (Kolb, 1984) is proposed in all study programs, as it is recognized that this method effectively addresses

the criterion of integrating curricular content (conceptual, procedural, and attitudinal learning) at various levels of acquisition (cognitive, functional, social, etc.).

Theoretically, experiential learning promotes the concept of learning through experience, which requires direct involvement in the topics being studied. Furthermore, it is believed that practical experience in the classroom provides students with real opportunities to better prepare for the challenges of the work environment. In this way, knowledge results from understanding and transforming experience (Kolb, 1984). In other words, experiential learning refers to the process of creating knowledge through the transformation of experience. As shown in Figure 2, this learning model presents a cycle of four phases: concrete experience, reflective observation, abstract conceptualization, and active experimentation.

**Figure 2: Student's learning cycle**



Source: Own adaptation based on Kolb (1984).

The cycle begins with an experience that the student has had, followed by an instance to reflect on that experience. Then, the student could conceptualize and draw conclusions about what they have experienced and observed, and finally apply what they have learned in other situations and contexts. Although this learning model is presented as a cycle, the phases can occur in any order. This is because the cycle involves both concrete components (Phases 1 and 4) and conceptual components (Phases 2 and 3), which certainly require a variety of cognitive and non-cognitive aspects.

Additionally, it is proposed that the curriculum weight of academic content in the direct approach be distributed as 30% for the theoretical part (conceptual content) and 70% for the practical part (procedural content). Regarding the metacurricular approach, it is suggested that teachers transition from traditional expository teaching or teacher-centered approach to a more dialogical and interactive student-centered, approach, while also highlighting the practical aspects of disciplinary content.

Methodologically, since soft skills essentially refer to abilities and Key Performance Indicators (KPIs), the following is proposed: (i) determining the skills to be infused, considering market needs (employer consultations) and institutional implications (alignment with the respective educational model); (ii) defining a set of indicators and descriptors for each skill to be infused (skills map or matrix); and (iii) developing classroom activities that actively engage students in their learning (active learning tool kit).

In terms of group dynamics, there is a proposal to particularly emphasize group work, which promotes peer communication, collaboration, personal initiative, interaction, self-efficacy, and group decision-making. Role-playing, case studies, simulations, Problem-Based Learning (PBL), and various playful and practical activities could be included. To enrich the proposal, community projects (service-learning) could be implemented to bring students closer to real-world problems. The reviewed literature indicates that these strategies are key to the development of socio-emotional skills in practice, as they promote discussion among students without the interference of the teacher, whose role now becomes that of a facilitator, mentor, negotiator, coach, and evaluator.

To allow students to apply the conceptual content related to soft skills and their various dimensions, the following strategies are suggested for teachers to implement or develop in their classes:

- Prepare checklists to monitor their own progress. This strategy increases responsibility for well-done work.
- Provide opportunities to collaborate in inter-, multi-, and transdisciplinary teams. This strategy promotes camaraderie, effective communication, decision-making, and problem-solving.
- Promote Socratic questioning. This strategy develops complex thinking in students, inspiring them to explore big ideas and elicit multiple perspectives.
- Foster oral communication. This strategy allows students to improve their communication competence and enhance other sub-skills, such as active listening, argumentation, paraphrasing, etc.
- Encourage active listening among students and ensure that everyone exchanges viewpoints in group activities.
- Provide opportunities for writing in multiple formats, such as emails, reports, executive summaries, etc. This strategy allows students to develop their writing competence since they will always encounter the challenge of producing various written outputs in the workplace.
- Make use of the diverse functions of language. This strategy helps develop assertiveness in students, which is crucial in demanding work environments. For example, after a conversation, encourage students to use phrases like "It was nice talking to you" or after a project, "It was pleasant and enriching to work with you," etc.
- Infuse critical thinking. The teacher could start with a challenging question as a way to stimulate discussion. This strategy involves organizing, categorizing, predicting, interpreting, analyzing, evaluating, summarizing, and making decisions, all of which are actions linked to the academic and professional domains.

- Stimulate deep learning. This strategy promotes inquiry, deepening of what has been learned, and knowledge management.
- Foster the pre-reading method. This strategy allows for classes with a more dialogical approach.
- Promote experiential learning. With this strategy, students actively engage with the topic under study.
  
- Integrate storytelling. This strategy fosters creativity and improves communicative competence.
- Prepare a set of problems related to everyday and work situations. The idea of this strategy is to stimulate creativity and critical thinking.

Regardless of the disciplinary area, it is believed that the above strategies promote the development of various socio-emotional skills, such as effective communication, teamwork, creativity, critical thinking, and problem-solving. These simple strategies would allow students to gradually consolidate their self-management skills and better prepare themselves to face the challenges of the job market.

As for the evaluative perspective, it is proposed to emphasize authentic assessment, which refers to criteria, as it significantly narrows the gap between classroom activities and work activities. Moreover, it seems that preparing young people for the long career of continuous learning or lifelong learning is not possible with traditional tests of optimal performance. It is necessary to rethink the way students' performance is assessed in line with the needs of the 21st-century job market. Precisely, methods of authentic assessment offer new ways to connect students to the world of work, as they facilitate interaction in the classroom while at the same time fostering the development of higher-order thinking skills (Vera, 2020). This objective could not be achieved through traditional test assessments, which also do not seem to reflect the work reality that future professionals will face.

It is important to emphasize that authentic assessment simulates conditions or situations in real life. Therefore, it requires students to generate effective responses for which they need to mobilize both technical knowledge and socio-emotional skills in unpredictable real-world contexts. The main objective is to obtain valid and accurate information about what students know and can do in real contexts, under simulated conditions (in-class activities) or real conditions (out-of-class activities). Hence, this assessment approach is also called performance assessment, as evaluative criteria primarily focus on the observation of complex behaviors rather than fragmented technical knowledge.

Additionally, it is worth noting that in the world of work, it is common to include soft skills in recruitment and personnel selection processes, and their evaluation and measurement are an important part of the human resources consulting industry. Overall, it is observed that interviews continue to be the preferred technique as they allow for the collection and measurement of personality traits, situational performances, motivation, decision-making, autonomy, self-efficacy, and other important dimensions of non-cognitive skills that would otherwise be challenging to evaluate. Therefore, it is recommended to implement what could be called "competency-based interviews," where the evaluator asks questions to elicit examples of leadership, teamwork, and problem-solving.

In the business field, although this technique is decisive in hiring new personnel, induction processes are also implemented, where a peer is assigned to accompany and evaluate the newly incorporated individual. This is usually done using rubrics, checklists, observation guidelines, or anecdotal records. Replicating this good practice and aiming to promote self-regulated learning in students, it is proposed to include self-assessment strategies (students assess themselves) and co-evaluation (students assess each other). Evidence indicates that co-evaluation of non-cognitive skills is more accurate, less biased, and more predictive of future performance (Connelly & Ones, 2010; Vera, 2023a; Vera, 2023).

Therefore, if it is necessary to implement psychometric or optimal performance tests, referring to the norm, it is proposed to include items that cover higher-order thinking levels (application, analysis, synthesis, and evaluation). These assessment tools could be used either from a summative perspective (with grading) or a formative perspective (without grading). Whichever evaluative option is chosen, it is always advisable to ensure measures of validity (instruments measure what they are intended to measure) and reliability (instruments produce consistent results over time, regardless of who administers or grades them).

As part of the discussion, it is worth asking: Are teachers assessing socio-emotional skills in line with their methodological approaches? Are these soft skills being adequately evaluated? What type of assessment is being conducted? Is self-assessment and co-evaluation encouraged? What levels of thinking are being covered in the assessments? From a temporal perspective, how is the evaluation conducted? In the local context, it is estimated that teachers tend to evaluate in a more episodic manner, for example, at the end of a learning unit, without taking advantage of reusing the same instruments with the same groups of students or different groups of students for comparative purposes.

Furthermore, a review of various evaluative instruments, such as tests, shows that they primarily assess lower-order thinking levels (knowledge and comprehension). Therefore, it seems that non-cognitive skills might be evaluated in the same way, which would not be in line with the criterion of validity. In the context of non-cognitive skills, validity translates into essentially evaluating performances and higher-order thinking levels that enhance students' problem-solving and decision-making abilities.

Based on the data analyzed so far, it can be inferred that the starting point for evaluating soft skills requires an appropriate conceptual and operational definition. Regarding validity, this means evaluating what should be evaluated, namely, performance evidence indicating the presence or absence of the assessed non-cognitive skill. Similarly, the reliability of the evaluation means obtaining consistent results regardless of the teacher. In fact, an important consideration is the need for soft skills to be evaluated by various teachers. Moreover, as a measure of reliability, the same assessment could be repeated at two different times to correlate the scores from the first moment with the second moment or create two versions of the same assessment with slight variations in the items, among other reliability measures. Therefore, in terms of evaluating and measuring soft skills, efforts should aim to achieve high levels of validity and reliability in the assessment instruments.

Certainly, some forms of standardized evaluation can be highly reliable for assessing cognitive skills, but depending on their construction, they may not be suitable for gathering evidence of the development of non-cognitive skills. In other words, if these instruments focus on lower-order thinking levels, they would not be suitable for evaluating performances from a validity perspective. However, if they assess higher-order thinking levels, they would obviously

be more suitable for evaluating the student's ability to solve problems with greater precision. Nevertheless, in no case would such an evaluation allow for an appreciation of the student's ability to transfer their knowledge to new contexts or situations, as such performance can only be observed and measured through indicators related to practical situations.

## Method

By employing a combination of a comprehensive literature review and a reflective analysis, this study provides an in-depth examination of the state-of-the-art of soft skills development, offering valuable insights and perspectives for researchers, educators, and practitioners in this field.

Additionally, the methodological approach of combining a comprehensive literature review and a reflective analysis enhances the rigor and credibility of this study. The comprehensive literature review allows for a systematic examination of existing research, theories and best practices related to soft skills development. It provides a solid foundation of knowledge and serves as a basis for understanding the current state-of-the-art in this field.

Furthermore, the reflective analysis adds a personal and subjective dimension to the study. By reflecting on their own experiences and perspectives, the author brings a unique viewpoint that complements the existing literature. This introspective process allows for a deeper exploration of the practical aspects of soft skills development, highlighting real-world challenges, successes, and lessons learned.

It is important to emphasize that this study represents an enhanced and expanded English version of the author's highly cited article titled "*Infusión de habilidades blandas en el currículo de la educación superior: Clave para el desarrollo de capital humano avanzado*", originally published in 2017. Building upon the foundational work presented in the previous article, this current study delves deeper into the topic of soft skills development, incorporating new insights, additional research findings, and a broader perspective.

While the original article provided a valuable contribution to the literature in the context of Spanish-speaking readers, this updated version aims to reach a wider audience by presenting the content in English. By doing so, the author seeks to increase the accessibility and visibility of the research, facilitating knowledge exchange and collaboration with international researchers, educators, and practitioners in the field of soft skills development.

Furthermore, this improved English version incorporates the latest advancements and developments in the field since the publication of the original article. It integrates new empirical evidence, recent theoretical frameworks, and emerging trends, enriching the discussion and providing a more comprehensive understanding of the topic. The expanded scope and refined analysis of this study contribute to a more nuanced and up-to-date exploration of soft skills infusion in the higher education curriculum.

Overall, this study serves as an important update and expansion of the author's previous work, ensuring that the research findings and insights reach a broader audience and remain relevant in the ever-evolving landscape of soft skills development in higher education. Thus, the insights and perspectives offered in this study are particularly valuable for researchers, educators, and practitioners in the field of soft skills development.

In essence, researchers can benefit from the synthesized knowledge and identification of key themes and trends, which can guide future research directions and contribute to the advancement of the field. Educators can gain valuable insights into effective strategies and approaches for fostering soft skills in educational settings, ultimately enhancing the learning experiences and outcomes of their students. Practitioners, such as HR professionals and organizational leaders, can gain practical insights and recommendations for designing and implementing soft skills development programs that align with their specific contexts and goals.

Overall, this study's methodological approach and its in-depth examination of soft skills development provide a valuable resource for advancing knowledge, informing practice, and fostering the growth and development of individuals and organizations in various professional domains.

## Discussion and conclusions

In response to the growing demand for a competent workforce, higher education institutions (HEIs) are facing the challenge of equipping students with the necessary knowledge, socio-emotional skills, and attitudes that align with the evolving needs of the industry. As industries undergo rapid transformations, the skills required for successful job performance are also evolving. HEIs play a crucial role in bridging the gap between the demand for highly skilled technicians and professionals and the supply of qualified individuals.

Traditionally, the focus in education has been primarily on technical knowledge and hard skills. However, employers are increasingly recognizing the significance of soft or non-cognitive skills in the workplace. These skills, such as communication, teamwork, problem-solving, adaptability, and emotional intelligence, are considered essential for effective job performance and overall success in today's dynamic work environments.

Furthermore, employers are placing greater emphasis on these non-cognitive skills because they contribute to a range of outcomes, including improved teamwork, enhanced customer satisfaction, increased innovation, and higher employee engagement. Moreover, these skills are transferable across different job roles and industries, making individuals more adaptable and versatile in their careers.

Research supports the notion that employers value soft skills more than technical knowledge or hard skills when assessing potential candidates. Studies conducted by Vera (2022) and Lamri & Lubart (2023) have highlighted the growing recognition of the importance of non-cognitive skills in the hiring process. Employers understand that while technical knowledge can be taught and acquired, soft skills are often more difficult to develop and are indicative of an individual's ability to effectively navigate various work situations and collaborate with others.

Therefore, HEIs must adapt their curricula and teaching methodologies to integrate the development of soft skills alongside the acquisition of technical knowledge. This can be achieved through project-based learning, internships, experiential learning opportunities, and the incorporation of socio-emotional skill development into the academic programs. By prioritizing the development of these skills, HEIs can better prepare students to meet the demands of the job market, enhance their employability, and contribute to their long-term career success.



In this context, globalization, and the market economy, in all areas, require technicians and professionals of this century to operate in different contexts and with people from various disciplines and socio-cultural backgrounds. Therefore, it is no longer sufficient to do a good job; it is necessary to act proactively and synergistically to contribute to the overall performance of teams and organizations. Thus, working on our own soft skills is worth doing, not only to meet the demands of the job market but also for our own personal progress in life.

According to the literature on soft skills, these skills can be effectively taught through a range of methodological strategies. Role-playing, simulation exercises, self-discovery activities, questioning techniques, interviews, projects, problem-based learning, cooperative learning, and reflective instances are among the diverse approaches that can be employed. These strategies aim to create authentic and immersive learning experiences that closely resemble real-world work environments.

To integrate the development of soft skills into the curriculum, different approaches can be adopted. The direct approach involves dedicated courses or modules specifically focused on the acquisition of socio-emotional competencies. The metacurricular approach involves infusing soft skills development throughout various disciplinary courses, integrating them into the overall learning process. Lastly, the mixed approach combines both dedicated courses and integration within disciplinary courses to ensure comprehensive skill development.

It is undeniable that complementing disciplinary training with the acquisition of socio-emotional skills is crucial in the Western world. The demand for well-rounded professionals who possess not only technical expertise, but also strong interpersonal and problem-solving abilities is growing rapidly. Therefore, it becomes imperative for educators to align the learning process with the specific needs of the industry, emphasizing the development of socio-emotional skills in new technicians and professionals.

To achieve this, a shift away from traditional frontal teaching methods and traditional assessments is necessary. The traditional approach may not effectively replicate the complexities of the work environment or adequately prepare students for the demands they will face in their careers. Instead, innovative teaching methods that foster active learning, critical thinking, collaboration, and self-reflection should be employed. Assessments should also be designed to evaluate the application of soft skills in authentic scenarios, allowing students to showcase their abilities in real-world contexts.

Teachers play a crucial role in bridging the gap between academic learning and industry needs. They must act as facilitators, creating engaging learning environments that encourage students to actively participate and apply their socio-emotional skills. Collaboration with industry professionals, internships, and experiential learning opportunities can further enhance the integration of soft skills development into the curriculum.

As it can be seen, the importance of socio-emotional skills in the development of new technicians and professionals cannot be overstated. Educators must adopt innovative teaching methods and assessments that replicate real-world work environments to effectively nurture these skills. By bridging the gap between academic learning and industry needs (Vera, 2023b), teachers can better equip students with the necessary competencies to succeed in their careers and contribute meaningfully to the workforce. This suggests that soft skills can be taught using various methodological strategies, such as role-playing, simulation, self-discovery, questioning, interviews, projects, problem-based learning, cooperative learning, and reflective instances. Furthermore, the development of these skills could be integrated into the curriculum in various

ways: direct approach, metacurricular approach, and mixed approach (combining both). Regardless, the need to complement disciplinary training with the learning of socio-emotional skills is evident in the Western world.

That leads us to believe that the conceptual and operational definition of non-cognitive skills needs to somehow replicate the work environment. Consequently, the common approach of frontal teaching and its counterpart, traditional assessment, does not seem to be the best strategic decision. Considering this situation, teachers are currently faced with the challenge of bridging the gap between the academic learning process and the specific needs of the industry in terms of the development of socio-emotional skills in new technicians and professionals. This challenge is evident not only at the national or regional level but also globally.

Finally, it is evident that technical skills alone do not seem to be sufficient to thrive properly and successfully in the world of work. On the contrary, to achieve the necessary level of quality in the new workforce, it is necessary to include a set of soft skills in the curricula. This set of skills should not only aim to transform students into better individuals but also adequately prepare them to face the challenges of an increasingly complex and changing world. In this sense, this article has been written with the purpose of generating debate and reflection on the infusion and development of the skills needed for the 21st century and with the intention of producing a transformative change in teaching practices that contributes more effectively to the continuous improvement of educational quality, from the concrete reality of the classroom.

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