### **International Journal of Education and Practice**

2025 Vol. 13, No. 2, pp. 492-503 ISSN(e): 2310-3868 ISSN(p): 2311-6897 DOI: 10.18488/61.v13i2.4068 © 2025 Conscientia Beam. All Rights Reserved.



# Development of transversal skills in the classroom: Perspective of university students

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# **ABSTRACT**

## **Article History**

Received: 13 August 2024 Revised: 3 January 2025 Accepted: 24 January 2025 Published: 31 January 2025

### **Keywords**

Classroom environment Education Students Teaching Transversal skills Universal competencies. This study explores students' perceptions regarding the importance of transversal skills during their university career. It used an exploratory, descriptive, and qualitative approach in this study. The design was appropriate because it allowed the researchers to contextualize how participants perceived transversal skills in the classroom and their role within the study context. Convenience sampling is used in this study. One hundred thirty-three third-semester undergraduate students participated. Participants were interviewed for 30-60 minutes using a validated structured interview guide which was recorded and later transcribed. The Academic Body of Engineering and Systems (EnySis) reviewed the expanded interview texts which considered themes and statements to filter out data pertinent to the study. The results indicated that students in the relevant university programs perceived transversal skills as crucial for social interaction and their progression through undergraduate studies. According to the findings, students believed communication skills were essential. It found that students perceived communication skills as the most important. In higher education, the focus is usually on transmitting technical and theoretical knowledge specific to each area of study. However, it is becoming increasingly clear that students' success in their careers and professional lives depends not only on their technical knowledge but also on their transversal skills. Students must be supported in developing these through university education.

Contribution/Originality: This study shows students' perceptions regarding the relevance of transversal skills in their teaching-learning process. The results provide a holistic approach to education where transversal skills in the classroom contribute not only to academic performance but also to personal growth and to forming well-rounded students who evolve and adapt to the needs of organizations and the changing labor market.

## 1. INTRODUCTION

In today's knowledge-based society, transversal skills are fundamental in an educational setting and the work environment. These skills, integral to one's personality can be either innate or developed through training workshops and life experiences. They are valuable across all jobs regardless of the industry or level of specialization.

Transversal skills gain strength over time as companies seek more upright workers, that is, people who focus on knowledge and personality so that they can more easily adapt to the needs presented by organizations (González-Molina et al., 2020).

In the work and professional environment, two types of skills allow us to generate competitiveness in our development: hard skills, which identify with the academic knowledge obtained in the training process, and soft skills, which involve implementing attitudes, personality traits, knowledge, and values in an integrated way (Clavijo, Tobar, Sarmiento, & Jumbo, 2020).

Similarly, transversal competencies are relevant in education, so it is necessary to open the way to a pedagogical model that generates transversal competencies and invites the teachers to commit to working collaboratively with their peers and sharing their knowledge and concerns. Transversal competencies will develop as long as teachers and students can work together in this way.

However, it is worth mentioning that some teachers say, "let us work collaboratively" but do not know the meaning of collaborative work. Therefore, transversal competency training for teachers is necessary.

The new curricular models are usually based on "transversality" or transversal axes inserted into the curricula to meet specific objectives such as providing elements for education transformation. The transversal axes facilitate the alignment between education in various disciplines and subjects and higher education programs aiming to develop well-rounded professionals (Botero Chica, 2008).

The curricular plan includes transversal axes, a model that educates students on values that should be worked on through the different compulsory curricular areas. Consultancies are offered to students during their journey at university. Although learning is crucial, teachers must take on a new role into effectively use these transversal axes for education. Teachers must be dedicated to their students' holistic development and capable of fostering coexistence, participation, and civic-mindedness.

Another transcendental aspect of the issue of transversality alludes to teacher training. In contemporary educational systems, teacher training must include knowledge instruction and a comprehensive education of the subject, including ethical, moral and axiological issues as essential categories. Although comprehensive training is vital for the teacher, it must also fall on the students (Botero Chica, 2008).

In this context, highlighting the significance of transversal competencies from the students' perspectives is valuable. This approach helps meet the objectives demanded by today's knowledge society. It contributes to developing students with critical transversal competencies such as autonomy, critical-analytical thinking, responsibility, creativity, commitment, and logical reasoning.

Hence, the importance of promoting teaching, learning, and assessment activities that are closely interconnected and linked to real life. Education at all levels should direct efforts towards constructing knowledge as an adventure that starts from the premise that all dogma is vulnerable (Rojas de Escalona, 2010).

Vera (2016) establishes that soft skills receive different names and consist of capabilities that favor organizational productivity, knowledge transfer and the professional success of collaborators.

The idea of "soft skills" in higher education has experienced a substantial change in this digital age, when everything is changing quickly and constantly. Many literature reviews highlight how the development of these skills affects the context of university education. They emphasize the importance of constantly maintaining authentic values in the learning process. Soft skills denote expanding accessibility, increasing student participation and improving efficiency in the teaching-learning process.

University students gain hard skills while at university, but what else do they need? Transversal skills are essential so that once students graduate from university; they can acquire a job that meets their expectations. Unfortunately, not all young people possess the employability skills that potential employers require. It may be believed that graduates might find employment that fulfils their needs if they thoroughly explore their career

options. However, in today's workforce, employers are looking for soft skills in potential employees that will help them succeed in their ventures.

Transversal skills are essential for university students to succeed professionally after graduating. Graduates nowadays experience challenges that are different from those experienced by previous generations.

In past years, no soft skills were required to ensure career success. The modern method of problem-solving requires graduates to be able to analyze problems and quickly find new solutions with limited or no contextual resources. They are expected to apply their critical thinking skills to generate ideas and innovations that drive success in the workplace. An example could be: How can big data be leveraged to create real-time data analytics?

Large employers currently evaluate employees' ability to provide constructive feedback and correct team members' mistakes while motivating them to improve for the next iteration. Leaders typically exhibit these traits, which indicate an individual's potential. Do students know how to approach feedback? Unfortunately, today's education system and learning environment are based on a central source of information where the teacher provides feedback on each student's assignments. Nevertheless, students are not taught how to provide constructive feedback on their peers' work.

New employees must work collaboratively with other team members and have the essential job skills required for their roles in the current knowledge society. Teamwork skills are essential in today's job market. The ability to engage in interactive discussions among team members is a transversal skill that can significantly boost graduate success in their workplace. Hodges and Burchell (2003) mention that competency in the workplace is a combination of cognitive skills (technical knowledge, expertise, and abilities) and personal or behavioural characteristics (principles, attitudes, values, and motives) that rely on a person's personality.

### 2. LITERATURE REVIEW

How can anyone think it should only train by developing hard skills to shape its future professionally? It is a mistake to maintain that idea. It is necessary to pay all possible attention to the concrete situations of real life and the external world and not to get bogged down in the thought that it will succeed only with technical or specific knowledge of some professional area. It needs to examine all of those facets of reality from the present to choose its suitable course and direct its gaze towards the present what the globalized society now demands.

The global society involves new ways of being, living, working, acting, feeling, thinking, dreaming, and imagining. It is a historical and theoretical horizon in which the individual, group, ethnicity, minority, class, society, people, citizenship, democracy, authoritarianism, representation, public opinion, history, tradition, market, currency, and other expressions and conditions of social life acquire new meanings (Ianni, 1996).

Soft skills set the tone for teachers as a whole to achieve their goals and objectives but above all within the emotional sphere to be emotionally aware, flexible, happy people and leaders in their work environment. They provide the opportunity and confidence to generate new creative and innovative ideas within the institution (Romay, Gallegos, González, & López, 2022).

Soft skills training programs should include a focus on individual needs, group and individual training, a component to address emotional behaviors at work, and training on effective communication (Dean & East, 2019).

Finally, it must be recognized that companies currently understand the value of their human capital. They now view them as individuals with superior abilities and competencies that positively impact the company's expansion rather than merely as operational assets that serve a certain purpose. In this way, people, educational institutions, and organizations must work as a team and as if they were a single institution to achieve the correct development and use of the staff's soft skills, ensuring a high level of sustainability for both companies and employees (González-Molina et al., 2020).

In addition, soft skills have become even more critical in the post-pandemic and largely remote work landscape. For example, confidence with specific software is a hard skill; knowing how to analyze different software packages to figure out what a company should use requires critical thinking, a soft skill.

A group of researchers set out to investigate the level of transversal competencies acquired to detect which students claimed to have the most deficiencies and, therefore, which one's teachers should focus on to develop them appropriately. According to their findings, students believe they have developed less in the following areas: the ability to act composed in public, make the best use of university resources, maintain regular performance in challenging or conflictual situations, and act firmly under pressure (Agudo, Hernández-Linares, Rico, & Sánchez, 2013).

Hernández, Claudia, Neri, and Juan (2020) found that university students in Spain, unlike Mexican students, perceive the soft skills acquired so far more positively in their research on the perception that engineering students have about acquiring soft skills obtained during their careers. Spanish youth are the most qualified in communication and information processing skills, can easily face challenges, can work in a team, have the initiative and determination to solve problems, provide correct feedback on errors, relate easily are persuasive and influential in the decisions made by other people, carry out self-analysis and self-criticism to continue improving, question ideas both their own and those of the people around them, stay informed about trends in the labor market, can react calmly to adverse situations and make the most of electronic media.

Educational models have focused their efforts on the development of cognitive skills.

### 3. METHODOLOGY

The methodology is a qualitative descriptive study that explores the perspectives and experiences of thirdsemester undergraduate students on the importance of integrating strategies for developing transversal skills within the classroom.

First, the researchers collected data through a one-on-one interview. Then, they transcribed, analyzed, and interpreted the data collected using audio recordings for data collection during the interview.

Qualitative research is about putting oneself in another person's shoes and seeing the world from that person's perspective; the most crucial part of data analysis and management is to be true to the participants (Sutton & Austin, 2015). In return, the participants answered truthfully in the interview; therefore, the information collected was considered valid and reliable. The role of the researcher in qualitative research is to attempt to access the thoughts and feelings of study participants (Sutton & Austin, 2015). The collected data is subject to validation and ethical approval for the study obtained from the Academic Body of Engineering and Systems (EnSys).

This study's participants were third-semester undergraduate students from the University Center of La Ciénega. It was conducted in the 2022-2023 school year.

Participants were chosen using the convenience sampling technique. In this case, participants were selected because they were quickly accessible to the researcher or wished to participate voluntarily (Arrogante, 2022). 56 students in the field of computer engineering (CoEn) and 77 students in the field of engineering in informatics (EnIn) were among the interviewees in the 18–19 age range. Regarding gender, more men (63.2%) participated than women (36.8%).

The interviews with the students began at the end of the school year when the teaching-learning process was completed.

In this study, the most important ethical considerations include respect for decision-making and protection of participants' attributes.

Researchers faced ethical challenges at all stages of the study, including anonymity, confidentiality, informed consent and the potential influence between the investigator and the participants (Streubert Speziale & Carpenter, 2011).

### 3.1. Data Collection Tools

The structured interview guide served as the main instrument for data collection. It was conducted in the second half of 2023 lasted two weeks and involved 133 participants. The first part of the interview consists of the demographic profile of the participants, including their age and gender. The second part consists of nine openended questions that explore students' perceptions of the importance of soft skills in education. The content of the interview guide was validated by expert members of the Academic Body of Engineering and Systems involved in the case study. The following key questions were asked during the interview: (a) What skills can be classified as soft skills? (b) What does it think of soft skills? (c) What is the importance of soft skills for different purposes? (d) What transversal skills are essential to the educational environment and the workforce? (e) What transversal skills would it like to improve? (f) What obstacles does it believe influence the development of different communication skills?

### 3.2. Data Collection Procedure

The study was conducted in two phases: 1) Validation of the structured interview guide.

The tool was validated by the expert members of the Engineering and Systems Academic Body (EnSys). 2) Interview. The researchers conducted individual interviews with participants.

### 3.3. Data Analysis

The recorded interviews are individually transcribed to produce a more detailed text. Each transcription was completed immediately after the interview (Hatch, 2002). Through informal interviews, the researchers ensured the reliability and accuracy of the data collected.

For the data analysis, a descriptive study of the variables was first carried out using central tendency and dispersion statistics (mean and standard deviation) to determine which abilities were most or least valued by the students. The Statistical Package for the Social Sciences was used for this analysis.

# 4. RESULTS

Table 1 presents the results obtained regarding the students' perception of transversal skills. The students developed a list of ten skills based on a literature review.

Table 1. Student perceptions (Multiple-choice).

Transversal skills	Frequency
Communication	103
Problem-solving	74
Teamwork	68
Analytical thinking	63
Proactivity	47
Innovation	30
Resilience	27
Leadership	25
Creativity	25
Stress tolerance	17

Source: Interview with student participants.

Communication, problem-solving, teamwork, critical thinking, initiative, resilience, leadership, creativity, and stress tolerance were the factors that were examined. Each variable is detailed below with its corresponding result.

Communication: Of the one hundred and thirty-three students interviewed, 77.4% stated that communication is a transversal skill that helps them work in a harmonious environment. Most students identify this transversal skill as one of the most important.

Problem-solving: Of the sample surveyed, 55.6% consider this transversal skill necessary for offering creative solutions to unforeseen events or obstacles.

Teamwork: In the interview, 51.1% rated this skill vital because it develops the ability to interact in harmony with colleagues, guaranteeing a productive and enriching atmosphere when working on a problem or situation.

Analytical thinking: Regarding this transversal skill, 47.3% of students stated that developing the ability to investigate a problem and find an efficient solution is a skill all students must develop to deal with any situation.

Proactivity: Students highly value this transversal competence. 35.3% of them considered it essential to have the initiative to present new proposals to avoid unforeseen situations and to be decisive at work.

Innovation: 22.5% of students stated that developing this transversal competence determines how each person understands, analyzes and evaluates solutions to different circumstances, generating novel ideas.

Resilience: This competence is fundamental as expressed by 20.3% of students, since it tests the balance between work and private life.

According to the responses of 18.7% of the students surveyed, leadership is a transversal competence critical for the correct development of work teams.

Creativity: 18.7% of students stated that this competence helps them transcend their thinking.

Stress tolerance: Regarding this transversal competence, 12.7% of the students stated that learning to develop it allowed them to adapt more flexibly to changes in unforeseen situations without suffering health consequences.

Regarding the students' general perception, it uses a set of statements to assess the importance of transversal skills. Table 2 shows the results with three response frequencies.

Table 2. Student perceptions on the importance of transversal skills.

Sentences	A	N	DA
Transversal skills are necessary for the university student.	99	23	11
Transversal skills are essential to get a better job.	89	33	11
Skills it exercised to "awaken" them in us and put them into practice.	71	33	29
Transversal skills are not as fundamental as professional knowledge.	32	27	74

Note: A=Agree; N=Neutral; DA=Disagree; Source: Interview with student participants.

It analyzes the student's responses with four statements: Transversal skills are necessary for the university student. Transversal skills are essential to get a job; skills are exercised to "awaken" them in us and put them into practice, and are not as fundamental as professional knowledge with the following three response frequencies: Agree (A), Neutral (N) and Disagree (DA).

Transversal skills are necessary for university students. This statement shows that 74.4% of students fully agree while 8.2% disagree.

Transversal skills are essential for getting a better job. 66.9% of students fully agree while 8.2% disagree.

It works to "awaken" skills in us and put them into practice. Regarding this statement, 15% of students disagree while a representative 53.3% indicate that they agree.

Professional knowledge is more critical than transversal skills. 24% said they agreed with this statement. However, a significant 55.6% indicate that they disagree because transversal skills allow them to face challenges effectively. In addition, they improve communication and problem-solving skills.

Table 3 presents the results obtained using a 7-point semantic differential scale to assess the students' perceptions of transversal skills for different purposes.

Table 3. Importance of transversal skills (n=133).

Purposes	Mean (1-7)	DS
Establish good relationships with other people.	6.38	0.7659
Academic performance.	6.07	0.7449
Work environment.	4.90	1.26

Source: Interview with student participants.

The transversal skills that were considered most important were "establishing good relationships with other people" (6.38) followed by "academic performance" (6.07) and in the workplace (4.90).

Students were asked to rank the relative relevance of nine abilities drawn from earlier research to further support their views on the value of transversal talents in both the academic and professional spheres. The results are shown in Table 4.

Table 4. Importance of transversal competencies related to the academic and work environment.

Transversal competencies	Mean (1-7)	DS
Communication	6.72	0.4470
Problem-solving	6.44	0.4990
Analytical thinking	5.81	0.8114
Teamwork	5.71	0.6827
Resilience	5.63	0.5831
Decision-making	5.62	0.6813
Time management	5.33	1.0460
Proactivity	5.12	1.1148
Leadership	5.09	0.8724

Source: Interview with student participants.

According to the results presented in Table 4, the five primary skills selected by the students interviewed were communication, problem-solving, analytical thinking skills, teamwork and resilience.

According to the student's responses, transversal competence or "communication" is one of the most critical aspects of the academic and work environments.

Communication: This transversal skill is more than a simple theoretical concept. It is a powerful tool for expressing one's feelings and perceptions without hurting others or violating their rights. It is about giving feedback without judging and receiving feedback through active listening which allows one to communicate effectively (Van-der Hofstadt & Gómez, 2013).

Decision-making: This transversal competence is essential for every student or professional since they expect to be able to make decisions in complex contexts and areas, constantly aware of and consistent with the scope and consequences arising from such decisions (Gómez Sánchez, 2020).

Moreover, analyzing and understanding consequences involves identifying alternatives that contribute to solving a problem or deciding, considering the short-, medium-, and long-term effects of applying or executing each (D'Zurilla & Goldfried, 1971).

Subsequently, an individual must participate in a reflective process whereby he or she determines which options are more acceptable or provide more positive outcomes based on their values and experiences (Squillace & Picon-Janeiro, 2010).

Table 5 displays the replies from the students on the transversal abilities they would like to enhance.

Table 5. Transversal skills that need to be improved (Multiple responses).

Transversal competencies	Frequency (n=133)
Communication skills	93
Problem-solving	90
Teamwork	87
Analytical thinking	79
Empathy	75
Collaboration	69
Proactivity	40
Leadership	37
Active learning	35
Time management	33

Source: Interview with student participants.

It asked students to choose which transversal skills they would like to improve. Students wanted to improve three primary skills: communication, problem-solving, and teamwork. These were previously chosen as the three most critical transversal skills (see Table 1).

Problem-solving as a cognitive skill refers to a person's ability to understand and solve tasks or activities they have accepted but do not know how to perform (Rojas de Escalona, 2010).

The following three transversal skills that students want to improve are analytical thinking, empathy, and collaboration. 30% or less of students are interested in improving skills such as proactivity, leadership, active learning, and time management.

Some authors consider it essential for students to develop social skills such as empathy. A transversal skill deemed necessary to human relationships and linked to social cognition, the way we perceive and think (López, Filippetti, & Richaud, 2013). Thus, Tobón, Zapata, Lopera, and Duque (2014) refer to empathy as a process of cognitive and emotional regulation that aims to identify and respond coherently to the emotional states of others and inhibit antisocial behavior.

On the other hand, collaboration is the coordinated execution of joint actions to develop a task or activity and meet shared objectives (Argyle, 2013). Similarly, in fundamental psychology, collaboration is understood as openness to communication and trust as well as a high sensitivity to shared interests and the growth of mutual human potential (Deutsch, Coleman, & Marcus, 2011).

Many previous studies suggest that most students need more communication skills. The students who participated in this study were asked about the obstacles they considered to influence the development of different communication skills. The main obstacles identified by the students were social anxiety, nervousness, and shyness (see Table 6).

Table 6. Obstacles to developing communication skills (n=133).

Obstacles	Frequency
Social anxiety	70
Nervousness	67
Shyness	52
Insecurity	50
Neurosensory or perception disorder	45

Source: Interview with student participants.

Emotional intelligence courses are necessary to manage social anxiety, nervousness, and shyness. They foster empathy and assertive communication which will most likely improve students' communication skills.

According to Gratz and Roemer (2004) there is a crucial distinction between emotional control, regulation, and modulation. For this reason, emotional management competencies are a set of skills for consciously processing emotions, accepting them, facing them, naming them in specific situations, and identifying the physiological

reactions they generate (Southam-Gerow & Kendall, 2002). Proper emotional management involves inhibiting inappropriate behaviors, regulating physiological arousal, focusing attention, and being self-aware (Linehan & Koerner, 1993).

Students with adequate emotional management can develop problem-solving skills through assertive communication which they achieve through emotional intelligence courses. They are prepared to face academic challenges and succeed in the job market.

## 5. DISCUSSION

Academic institutions prioritize providing students with hard skills and information for their future jobs, understating the significance of soft skills as a supplement to hard abilities. Consequently, new employees are not prepared for success. Recent graduates do not meet the requirements of the companies because they lack the "soft" skills needed to perform at a high level in the workplace.

The findings of this study support the idea that communication, problem-solving, and teamwork are fundamental skills that students should develop during their university journey.

During the COVID-19 pandemic, students were somehow forced to develop soft skills such as active learning, co-constructing knowledge, autonomy, and protagonism in the teaching-learning process. Resilience involves adapting quickly to unexpected situations. Stress tolerance involves developing the ability to cope with events that somehow make them adaptively feel stress, preventing them from hindering their academic performance. Collaboration involves accepting shared responsibility and valuing the knowledge and participation of their peers. Moreover, they are proactive; they can provide solutions when faced with unforeseen situations.

Within the labor market, the primary soft skills are communication, teamwork, and decision-making which coincides with the results of this study in which it found that for students, the transversal skills that they consider most important are communication, problem-solving, analytical thinking, teamwork, and resilience which implies the acquisition of new knowledge, being better professionals, collaborators, work teammates as well as better people willing to grow and develop both in an educational, work, personal and family context.

The literature review suggests that most studies on this topic are conducted from the perspective of employers and only a limited number of studies have focused on students' perceptions and attitudes towards transversal skills. Therefore, it is worth exploring students' perceptions regarding transversal skills from a new angle and context. The main objective of this study was to investigate students' perceptions regarding the importance of developing interpersonal skills in their teaching-learning process according to their criteria. Some areas covered by this study were students' perceptions regarding interpersonal skills in general, the importance of interpersonal skills in education, the role that transversal skills play for different purposes, the importance of interpersonal skills in the academic and work environment, the skills they consider need improvement and finally the perception regarding the obstacles encountered in developing communication skills.

The article's findings show that the development of transversal skills is highly relevant in all areas from personal to professional to work-related contexts. Establishing programs to enhance these skills is crucial as transversal skills predict success in all domains.

Another related finding was that most students expressed that transversal skills training should be integrated into learning units because it could allow students to understand how to apply these skills in specific situations.

In this sense, according to Rodriguez Siu, Rodríguez Salazar, and Fuerte Montaño (2021) in an educational context, teachers are essential to teaching students soft skills and the most important skills are those related to innovation, idea generation, analytical thinking, problem-solving, and information management.

The teaching-learning process must contribute to the student's comprehensive development. A curriculum must be oriented to link knowledge (know-how), feelings and emotions (know-how) in such a way that it fosters

personal relationships that allow students to live together well to participate effectively in the development of society.

Once higher education is completed, the professional faces a business environment in which he must practice not only his technical knowledge or complex skills but also the skills that allow him to work in a team, have control of his emotions and have effective communication called soft skills (Sánchez, Amar, & Triadú, 2018).

In this way, man creates the knowledge that allows him to interpret, question, and transform reality through formation. Therefore, the traditional classification of knowledge that distinguishes between knowledge (cognitive knowledge), know-how to do (applied knowledge or capabilities), and know-how to be (behaviors and conduct related to the application of knowledge) is not exhausted in what we can define as the general system of knowledge of the person (Raciti, 2015).

Teachers need soft skills such as reliability, specialized knowledge, status or prestige, sympathy or empathy, and diversity of physical features or similarity with the audience to promote meaningful learning in the teacher-student relationship where motivation is an essential element for learning according to the constructivist theory of meaningful learning (Romay et al., 2022).

It is also essential to recognize that the development of transversal skills has a high social relevance since the considerable demands made by the globalized and frequently changing society that professionals are faced with are recognized and where it has been identified that professional competencies must be complemented with transversal skills that allow them to look at reality. Considering the university as a place to acquire exclusive knowledge of a discipline is essential. Instead, it should be oriented to visualize and convert the educational scenario into a learning space to live with others. It implies learning to socialize, interact, collaborate, have empathy and resilience, and include emotional intelligence.

### 6. CONCLUSION

The skills that allow students to be more empathetic and resilient and work as a team are the ones that workers require, including time management, leadership, collaborative work, and communication; they also generate successful interpersonal relationships.

Students claim to need to improve analytical thinking, empathy, and collaboration improving them can mean forcing them to leave their comfort zone. Therefore, it is necessary to use strategies that motivate students to work their minds, forcing them to awaken those ideas that lie dormant due to the student's passivity, to carry out dynamics where debates generate, and to encourage students to work collaboratively. However, students claim that significant obstacles influence the development of communication skills such as social anxiety, nervousness, and shyness. Therefore, the university institution must offer students workshops on emotional intelligence.

In this new knowledge society, it is clear that hard skills and experience in curriculum vitae will always be necessary. However, more is needed nowadays; it must convince recruiters that it has the transversal skills to help it succeed. In short, the formation of transversal skills in the university context requires making the necessary adjustments to train young people not only with the capacity to "do" but also with the necessary skills of "being," which leads to a successful professional future.

Funding: This study received no specific financial support.

**Institutional Review Board Statement:** The Ethical Committee of the University Center of La Ciénega/University of Guadalajara, México has granted approval for this study on 7 January 2022 (Ref. No. 001-07-22).

**Transparency:** The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.

Competing Interests: The authors declare that they have no competing interests.

**Authors' Contributions:** All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.

### **REFERENCES**

- Agudo, J. E., Hernández-Linares, R., Rico, M., & Sánchez, H. (2013). Transversal competencies: Perception of their development in the degree in industrial design engineering and product development. Formación Universitaria, 6(5), 39-50. https://dx.doi.org/10.4067/S0718-50062013000500006
- Argyle, M. (2013). Cooperation (Psychology revivals): The basis of sociability. New York: Routledge.
- Arrogante, O. (2022). Sampling techniques and sample size calculation: How many participants should I select for my research? [Review of Sampling techniques and sample size calculation: How and how many participants should I select for my research?]. Enfermeria Intensiva, 33(1), 44-47. https://doi.org/10.1016/J.ENFI.2021.03.004
- Botero Chica, C. A. (2008). Transversal axes as a pedagogical instrument for the formation of values. Revista Iberoamericana De Educación, 45(2), 1–7. https://doi.org/10.35362/rie4522146
- Clavijo, A. M. C., Tobar, N. J. C., Sarmiento, M. C. M., & Jumbo, J. M. Q. (2020). Soft skills, a competitive factor in the profile of the public servant. *Polo del Conocimiento: Revista Científico-Profesional*, 5(5), 41-63.
- D'Zurilla, T., & Goldfried, M. (1971). Problem-solving and behavior modification. Journal of Abnormal Psychology, 78(1), 107-126.
- Dean, S. A., & East, J. I. (2019). Soft skills needed for the 21st-century workforce. Retrieved from https://core.ac.uk/download/217233640.pdf
- Deutsch, M., Coleman, P. T., & Marcus, E. C. (2011). The handbook of conflict resolution: Theory and practice. United States: John Wiley & Sons.
- Gómez Sánchez, A. (2020). Decision-making as a transversal competence: Workshop for social education students. Doctoral Thesis, University of Valladolid.
- González-Molina, M. G., Enciso-Galindo, B. V., Arciniegas-Hurtado, L. F., Tovar-Arévalo, P. A., Bonza-Forero, P. I., & Arévalo-Peña, L. P. Y. (2020). Importance of soft skills for the employability and sustainability of staff in organizations. *Encuentros con Semilleros*, 2(2), 1-10. https://doi.org/10.15765/es.v2i2.2646
- Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in emotion regulation scale. *Journal of Psychopathology and Behavioral Assessment*, 26, 41-54. https://doi.org/10.1023/b.joba.0000007455.08539.94
- Hatch, J. A. (2002). Doing qualitative research in education settings. Chicago: State University of New York Press.
- Hernández, H., Claudia, A., Neri, T., & Juan, C. (2020). Soft skills in engineering students from three public higher education institutions. RIDE. Revista Iberoamericana para la Investigación y el Desarrollo Educativo, 10(20), e047. https://doi.org/10.23913/ride.v10i20.678
- Hodges, D., & Burchell, N. (2003). Business graduate competencies: Employers' views on importance and performance.

  International Journal of Work-Integrated Learning, 4(2), 16-22.
- Ianni, O. (1996). Social sciences and global society. Perfiles Educativos, 71, 3-9.
- Linehan, M., & Koerner, K. (1993). A behavioral theory of borderline personality disorder. In Paris, J. (Orgs.), Borderline personality disorder: Etiology and treatment. In (pp. 103-121). Washington, DC: American Psychiatric Press.
- López, M. B., Filippetti, V. A., & Richaud, M. C. (2013). Empathy: From automatic perception to controlled processes. *Advances in Latin American Psychology*, 32(1), 37-51.
- Raciti, P. (2015). Measuring transversal competences in Colombia: A methodological proposal. Retrieved from http://sia.eurosocialii.eu/files/docs/1444897404-DT34.pdf
- Rodriguez Siu, J. L., Rodríguez Salazar, R. E., & Fuerte Montaño, L. (2021). Soft skills and teacher performance at the higher level of education. *Propósitos Y Representaciones*, 9(1), e1038. https://doi.org/10.20511/pyr2021.v9n1.1038
- Rojas de Escalona, B. R. (2010). Problem-solving: A strategy for evaluating creative thinking. *Sapiens University Research Journal*, 11(1), 117-125.
- Romay, S. N. C., Gallegos, S. C., González, L. A. V., & López, E. P. (2022). Study of soft skills: Professors of the national technological institute of Mexico, campus Coatzacoalcos. *Revista Scientific*, 7(24), 219-236.

- Sánchez, O. M., Amar, R. M., & Triadú, J. X. (2018). Soft skills: Necessary for the comprehensive training of university students.

  \*Revista Científica ECOCIENCIA, 5, 1-18. https://doi.org/10.21855/ecociencia.50.144
- Southam-Gerow, M. A., & Kendall, P. C. (2002). Emotion regulation and understanding: Implications for child psychopathology and therapy. *Clinical Psychology Review*, 22(2), 189-222. https://doi.org/10.1016/S0272-7358(01)00087-3
- Squillace, M., & Picon-Janeiro, J. (2010). Influence of heuristics on decision-making. Psychological Research, 15(3), 157-173.
- Streubert Speziale, H. J., & Carpenter, D. R. (2011). *Qualitative research in nursing: Advancing the Humanistic Approaching* (4th ed.). Philadelphia: Lippincott Williams & Wilkins.
- Sutton, J., & Austin, Z. (2015). Qualitative research: Data collection, analysis, and management. *The Canadian Journal of Hospital Pharmacy*, 68, 226–231. https://doi.org/10.4212/cjhp.v68i3.1456
- Tobón, O. E. A., Zapata, S. J. C., Lopera, I. C. P., & Duque, J. W. S. (2014). Academic training, values, empathy and socially responsible behaviors in university students. *Revista de la Educación Superior*, 43(169), 89-105. https://doi.org/10.1016/j.resu.2015.01.003
- Van-der Hofstadt, C. J., & Gómez, J. M. (2013). Professional skills and competencies for university students. Madrid: Díaz de Santos.
- Vera, F. (2016). Infusing soft skills into higher education curriculum: Key to developing advanced human capital. *Revista Akadèmeia*, 15(1), 53-73.

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