Developing soft skills in university education in the digital age

Desarrollo de habilidades blandas en la formación universitaria en la era digital

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ABSTRACT
The overall objective of this research is to analyse how soft skills are developed in university students at the National University, Liberia Campus, in the context of the digital era and its effects on education. A quantitative methodology involving statistical analysis of the data collected was adopted. Only 7.5% of respondents found it very easy to concentrate on the different activities required for university studies in this new technological reality. It stands out that, while creativity has been recognised as a crucial skill for learning, other aspects such as empathy and leadership show significant areas of improvement. Consequently, skills such as teamwork, self-learning and conflict resolution reflect varied perceptions, suggesting the need to strengthen these aspects in the virtual environment.

Descriptors: interpersonal relations; social skills; social interaction. (Source: UNESCO Thesaurus).

RESUMEN
La investigación tiene por objetivo general de este estudio analizar cómo las habilidades blandas se desarrollan en los estudiantes universitarios de la Universidad Nacional, Campus Liberia, en un contexto de era digital y sus efectos en la educación. Se adoptado una metodología cuantitativa que implica el análisis estadístico de los datos recopilados. Tan solo el 7,5 % de los encuestados le ha resultado muy fácil lograr concentrarte en las diferentes actividades que demanda los estudios universitarios en esta nueva realidad tecnológica. Se destaca que, si bien la creatividad ha sido reconocida como una habilidad crucial para el aprendizaje, otros aspectos como la empatía y el liderazgo muestran áreas de mejora significativas. Por consiguiente, las habilidades como el trabajo en equipo, el autoaprendizaje y la resolución de conflictos reflejan percepciones variadas, sugiriendo la necesidad de fortalecer estos aspectos en el entorno virtual.

Descriptores: relaciones interpersonales; competencias sociales; interacción social. (Fuente: Tesauro UNESCO).

INTRODUCTION

In today's digital age, with rapid technological advancement and the mastery of technical skills in the workplace, soft skills are increasingly important to achieve success at both the personal and organisational levels. While technical skills are fundamental to use digital tools, soft skills, also called interpersonal or social skills, are crucial to adapt, innovate and collaborate in today's work environment. This is why this research seeks to understand the development of soft skills in university education in the digital era, considering as the study population the students of the UNA, Liberia Campus.

Higher education is currently facing a fundamental challenge: the acquisition of interpersonal (soft) skills in an era dominated by digital technology. Soft skills, or interpersonal skills, are indispensable in both work and personal life, and go beyond technical knowledge. It is crucial to add these skills to university education in this situation. Team collaboration, problem-solving skills, originality, the ability to put oneself in the other's shoes and flexibility are examples of soft skills. In an increasingly automated and digitised world of work, the ability to collaborate with others, lead groups and resolve disputes in a positive way is crucial to success. It is imperative that universities integrate the teaching of soft skills into their curricula.

Students need to acquire skills that enable them to adjust to a constantly evolving work environment, in addition to gaining specific knowledge in their disciplines. University education should not only focus on teaching information, but also on promoting creativity, critical thinking and adaptability. In a society as advanced with the use of ICTs as the one we are currently living in, personal interaction has taken an energetic turn, leaving aside empathy, compassion for others and courtesy as current qualities present in many daily activities, be they work or personal. Hence Arias (2020) states:

> Thus, the promotion of soft skills in society is of vital importance to create awareness in the world's population and generate empathy, collaboration and compassion for others that will make a difference for generations to come. In addition to having an impact on the improvement of interpersonal relationships, this will help in the long term to impact on work productivity and the results obtained by both the service facilitator and the client who receives the service, generating mutual satisfaction with the service provided and the solution or help obtained (p. 4).

Similarly The Organisation for Economic Co-operation and Development (OECD) (2017) mentions:

> In the 21st century, competencies, skills and abilities have become the key factor in achieving individual well-being and economic success for a society. Without adequate investment in these areas, people languish on the margins of society, technological progress does not translate into growth, and countries are unable to compete in an increasingly knowledge-based global economy (p. 1).

The current challenge is to prepare professionals who can adapt to a digital society that is more demanding of soft skills than technical skills, as these enable them to relate to other individuals, customers, competitors and suppliers, playing a key role in adapting to changes in business. Likewise, Zepeda-Hurtado et al. (2019a) consider that "...it is necessary to develop solid basic competences that allow individuals to enter the labour market or move on to higher education" (p. 8).

For this reason, one of the biggest challenges for higher education institutions is to prepare students in soft skills that will be essential in their university life, but even more necessary when they enter the labour market. Regarding the challenges in university education, Valverde et al. (2020) state that "current behaviour is moving towards the development of techniques that combine motivation, prior knowledge and the values that the student has" (p. 273).

Upon completion of higher education studies, each graduate is confronted with a business environment in which he or she must put into practice all the general and specialised knowledge learned throughout his or her university career. This involves not only hard or technical skills,

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but also soft skills such as teamwork, emotional management, assertive communication, leadership, decision making, conflict resolution, creativity, critical thinking, self-learning, among others.

In an increasingly automated and technological world, soft skills are increasingly valued. Technology does not have the capacity to replace teamwork, leadership, problem solving, creativity and effective communication. Therefore, university education must adapt to develop these competencies in students, preparing them for a constantly evolving labour market. Today, companies are looking for skilled individuals who are experts in the relevant subjects to join their teams, but they also choose people with skills that will benefit the organisation and foster both personal and professional development.

Universities need to adopt pedagogical approaches that encourage the development of soft skills to address this problem. This can be achieved through innovative methods such as collaborative projects, extra-curricular activities, mentoring programmes and simulations of real-life situations. It is essential that teachers act as facilitators of learning, creating an environment that fosters the development of these skills. Appropriate use of ICTs will benefit the creation of competent environments to provide a quality service to students, contributing to the growth of the University. It is crucial that, at UNA, Campus Liberia, students' soft skills are promoted and enhanced, which will enhance the educational process and benefit the institution by generating recognition among students and teachers.

Currently, technological advancement represents a significant challenge for all universities that operate under a traditional model, as they must migrate towards a virtual model. However, this learning process has not been easy, especially with regard to the development of soft skills, which are essential in a demanding labour market. According to (Zepeda-Hurtado et al. 2019b), in a globalised context it is crucial to promote comprehensive training that, adapted to engineering graduate profiles, fosters soft skills such as effective communication, teamwork and creativity.

On the other hand, (Canossa-Montes-de-Oca, 2019) highlights that developing soft skills, including emotional intelligence, is fundamental to improve employment opportunities and adapt effectively; being important to adapt our competences to technological evolution and the demands of the labour market allows us to prepare for future occupations that have not yet been defined. Therefore, according to (Araya-Fernández & Garita-González, 2019), they comment that continuously adjusting university education to modern demands and the professional profile needed to face the challenges of the digital economy is imperative.

The new generations of university students recognise the crucial importance of soft skills in order to perform adequately in the labour and social sphere. (Guerra-Báez, 2019) emphasises that these skills are fundamental for both professional and personal training, underlining the need for comprehensive higher education that does not neglect the development of soft skills. In turn, (Gómez-Gamero, 2019) argues that educational institutions must collaborate to develop skills that prepare future workers to handle real-life situations and increasingly complex jobs. Likewise, (Herrera & Torres, 2020) argue that it is essential for educational institutions to promote social competences that strengthen young people's leadership and enable them to aspire to strategic roles in organisations. In this sense, (Álvarez et al. 2015) propose specific teaching-learning strategies for the development of soft skills and the evaluation of their progress in the courses.

According to Sánchez et al. (2018), at the end of higher education, professionals must apply soft skills such as teamwork, emotional management and effective communication in the business environment (p. 4). In complement, (Torres & Herrera, 2019) underline the importance for higher education institutions to identify strategies that foster the development of soft skills in students.

Therefore, the general objective of this study is to analyse how soft skills are developed in university students at the National University, Liberia Campus, in the context of the digital era and its effects on education.

METHOD

A quantitative methodology involving statistical analysis of the data collected was adopted. The main purpose of this approach is to objectively describe, explain, predict and control the reasons associated with the object of study. In this way, it seeks to validate conclusions through a rigorous and systematic application of the methodology, thus contributing to a deeper and more informed understanding of the phenomena involved.

The present study is based on a methodology oriented towards a quantitative approach as a guiding paradigm of descriptive scope. In this way (Hernández-Sampieri & Mendoza-Torres, 2018) states that the quantitative approach: "Uses data collection to test hypotheses based on numerical measurement and statistical analysis, in order to establish patterns of behaviour and test theories" (p. 41).

In the scope of research (Hernández-Sampieri et al., 2014) mentions that descriptive studies "Seek to specify important properties and characteristics of any phenomenon being analysed. They describe trends in a group or population" (p. 92). The transitory scope is longitudinal, in that the study of the problem corresponds to an extract of the determined time.

To collect the information, a questionnaire with closed questions was used on the Google Form platform, which was shared through the Moodle platform and from the WhatsApp digital application to the participants. The questionnaires were implemented between the third and fifteenth day of November 2023. The population considered is finite, according to the records office of the National University of Costa Rica, Chorotega Regional Headquarters, by November 2023 there were 994 active students. In the careers of; administration, sustainable tourism business management, pedagogy, information systems engineering, hydrological engineering.

The study involved 277 students from university level I to level V (151 females, 116 males between 17 and 22 years of age, belonging to the UNA, Liberia campus. A random selection process was carried out according to the ethical principles of the institution, using a simple random probability sampling technique with the enrolled and active student body of the II academic year 2023 as the sample frame. As shown in table 1.

Table 1. Sample calculation.

$n =$	$\dfrac{Z^2 * N*p*q}{e^2(N-1) + Z^2\, p*q}$	$\dfrac{1.95^2\,(994)(0,5)(0,5)}{0,05^2\,(994\text{-}1)+1,95^2\,(0,5)(0,5)}$	$\dfrac{954,64}{3,44}$	$= 277,28 = \mathbf{277}$

Source: Own elaboration, 2024.

RESULTS

The results obtained in the questionnaire based on a Likert scale demonstrate the depth of the students' knowledge of soft skills at the National University of Costa Rica, Chorotega Regional Headquarters, Liberia Campus in times marked by the digital era. The scale is called "Perceptions of soft skills knowledge in university students", which from now on we will call it (PCHBU: 5 items) that evaluates the knowledge learnt by students in terms of soft skills in times where technology is a high point as a tool from a virtual pedagogical modality.

In the first group, made up of the skills of creativity, empathy and leadership, only 46 % of the students surveyed indicated that their training in these times has undoubtedly required creativity, this being very important in their learning process. On the other hand, in terms of empathy 17.4 % found it difficult to understand their classmates, 34.3 % stated that they were neutral on the subject. During the asynchronous group activities in the online courses, only 23.4 % of the students take on a leadership role very often, 32.1 % occasionally.

In the second group, skills such as teamwork, self-learning and conflict resolution were assessed. Only 43.4 % of the students considered teamwork to be valuable for the development of synchronous and asynchronous activities in the virtual modality. On the other hand, this has caused, in the first instance, around 41.9 % to be undecided (neutral) with regard to the handling of conflict resolution in the different interactions with their classmates. Secondly, 36.2 % indicated that they did not feel comfortable with their ability to study and understand on their own content related to the different subjects seen in class, using technological tools as a mechanism of help and support.

The third and last group was composed of 5 soft skills; assertive communication, critical thinking, adaptability, emotional intelligence and decision making. According to the results of the questionnaire, 38.1 % of the students indicated that they occasionally use assertive communication and only 20.4 % very frequently. As a result of the low use of assertive communication, only 12.5 % use critical thinking to consult doubts about the contents seen in the virtual classes.

On the other hand, only 7.5 % of those surveyed found it very easy to concentrate on the different activities required for university studies in this new technological reality. In addition, 36.2 % consider that sometimes they manage their emotions when problems arise with their classmates, causing only 11.3 % of the students to be totally satisfied in making decisions regarding the different activities carried out in both synchronous and asynchronous classes.

Using all the data described in the results of this research, we arrive at the assessment that the highest rated soft skill was creativity with 46 %, which is considered low on a percentage scale of 100 %. Figure 1 below shows the PCHBU, the ratings that the students under study have regarding the development of soft skills and learning achievement.
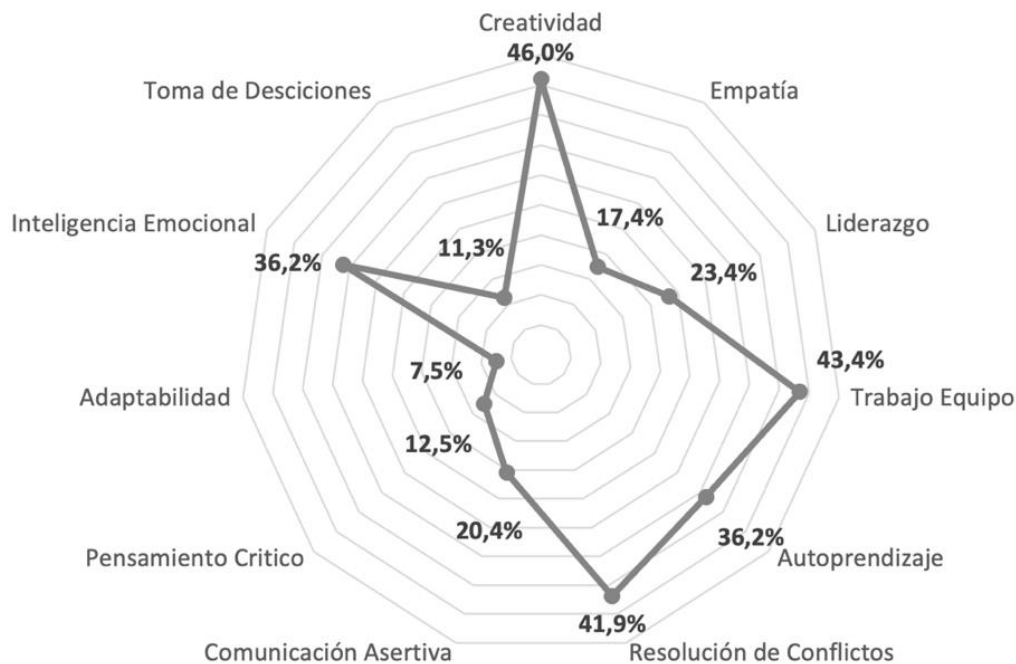

Figure 1
PCHBU - Assessments of soft skills and learning achievement.
Source: Own elaboration, 2024.

It is also worth mentioning that the subjects under study have rated all the soft skills under analysis with a score below 50 %. The PCHBU shown in figure 1 shows in a first block the need for improvement especially in adaptability, decision-making and critical thinking, which received

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the lowest score with an average of 10.3 %. In a second block, empathy, assertive communication and leadership averaged 20.40 %. A third block comprised of self-learning and emotional intelligence which both scored 36.2 % and finally a fourth block with a higher score for creativity, teamwork and conflict resolution skills which together averaged 43.76 %.

Figure 2 shows a summary by block of the soft skills analysed among the subjects under study.
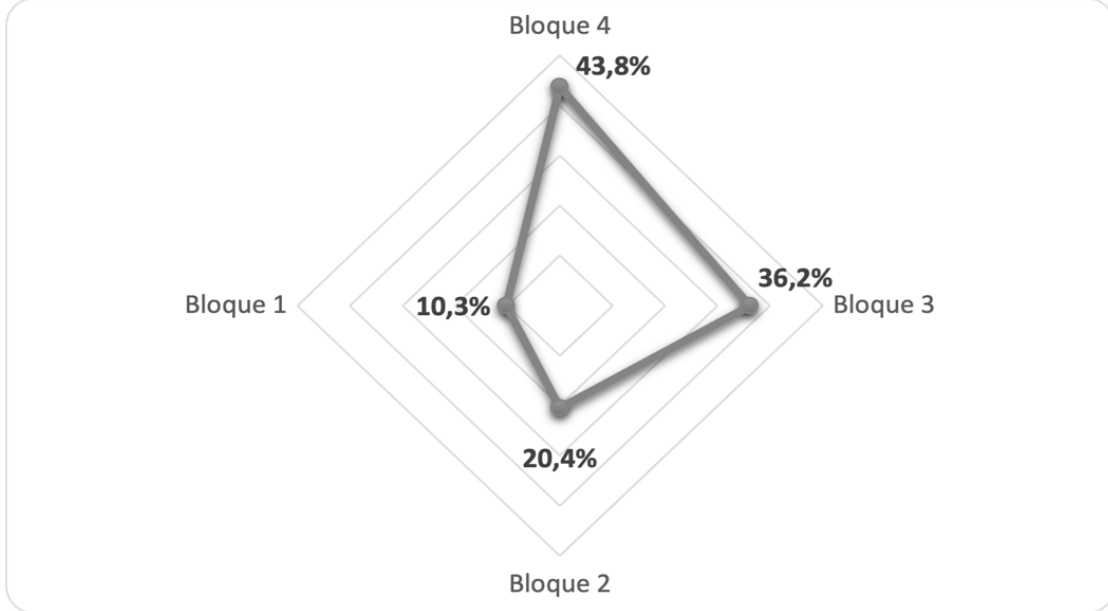

Figure 2
PCHBU - Synthesis by blocks of soft skills of the study population.
Source*: Own elaboration, 2024.*

Finally, the students surveyed were asked: What was their general opinion of the development of soft skills in times marked by the digital era? A scale composed of 5 items (1-Not Satisfied, 2-Slightly Satisfied, 3-Neutral, 4-Very Satisfied and 5-Something Satisfied) was used to establish the general PCHBU of the research, as shown in figure 3 below:
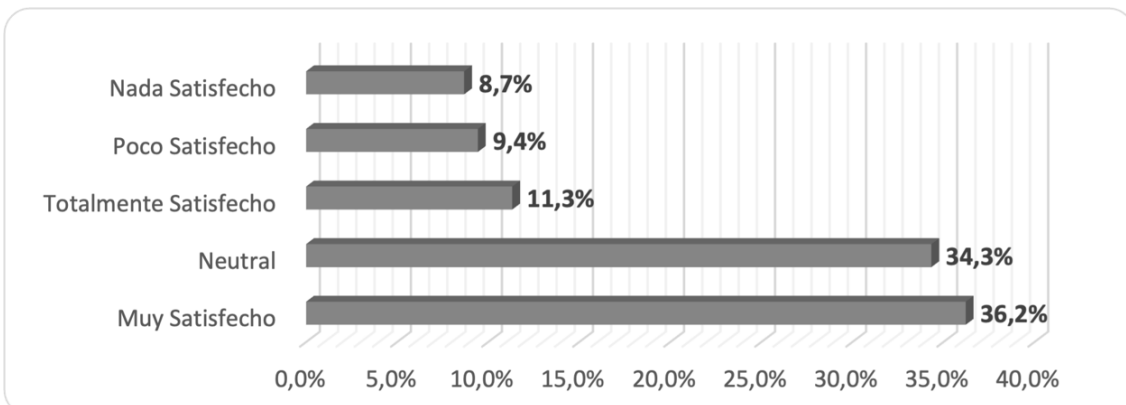

Figure 3

PCHB. - General view of soft skills development in times marked by the digital age.

Source*: Own elaboration, 2024.*

DISCUSSION

The findings indicate that there is use of soft skills in university students in the digital age, but little importance is often given by educational institutions to the growth of technical skills and specialised knowledge rather than soft skills (Araya-Fernández & Garita González, 2019). Despite being considered fundamental, they are not always effectively incorporated into curricula, resulting in poor preparation for the world of work. Students are not adequately trained to develop these competences if there is no explicit focus on them (Marrero-Sánchez et al, 2018; Álvarez et al, 2015).

In this context, although it is important for universities to incorporate these competences into their curricula to ensure that students can collaborate and adapt in diverse and dynamic professional environments, as well as master their areas of study. The rise of digital technology can, in a contradictory way, hinder the acquisition of soft skills such as interpersonal communication, empathy, critical thinking and decision making, as evidenced in the research due to their low valuation by the participants. Thus, (Sánchez et al. 2018) argue that communication through electronic devices, despite being practical, often lacks the depth and nuances of in-person communication.

Students may become overly dependent on text messages and emails, which restricts their ability to improve their communication skills in face-to-face situations. In other words, technological dependence can also negatively impact empathy and conflict management skills, as virtual interactions do not always offer the same level of human connection as face-to-face interactions (Millalén, 2017; Valverde et al, 2018; Zepeda-Hurtado, 2019).

The lack of practical occasions at university level also represents a major obstacle to the development of these skills. Many educational programmes are based on lectures and individual exams, with few opportunities to work on team projects or participate in activities that involve the development of soft skills. Without opportunities to practice in a simulated work environment, students cannot improve their soft skills. Theory is not enough, regular practice in relevant situations is necessary for students to improve and master these skills.

Soft skills have gained an unprecedented relevance in the work and personal environment, offering a number of benefits that go beyond purely technical skills. The ability to communicate effectively, collaborate in groups, adjust to change, and manage time and emotions has become critical in an increasingly interconnected and dynamic world (Gómez-Gamero, 2019; Guerra-Báez, 2019). Therefore, what best creates the teacher is practice and students must be proactive agents and improve their competences with a view to insertion in the workplace and feed off the external to foster learning communities in line with the current reality.

CONCLUSION

It is highlighted that while creativity has been recognised as a crucial skill for learning, other aspects such as empathy and leadership show significant areas for improvement. Consequently, skills such as teamwork, self-learning and conflict resolution reflect varied perceptions, suggesting the need to strengthen these aspects in the virtual environment. Likewise, competences such as assertive communication, critical thinking, adaptability, emotional intelligence and decision-making are recognised, but require further attention to reach optimal levels of development. These findings indicate the importance of implementing specific educational strategies that systematically promote these skills, thus preparing students for the challenges of the modern and future labour market.

FUNDING

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CONFLICT OF INTEREST

There is no conflict of interest with persons or institutions involved in the research.

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