# **International Journal of** Engineering Pedagogy

iJEP | elSSN: 2192-4880 | Vol. 14 No. 3 (2024) | 🖯 OPEN ACCESS

https://doi.org/10.3991/ijep.v14i3.45425

#### PAPER

# The Importance of Soft Skills for Academic Performance and Career Development—From the Perspective of University Students

#### Thi Thuy An Ngo(⊠)

FPT University, Can Tho, Vietnam

anntt24@fe.edu.vn

#### ABSTRACT

In the present era, the importance of soft skills as a crucial element for personal and professional success is widely acknowledged. When hiring new employees, these soft skills are highly valued by employers. However, many students are unaware of the crucial role those soft skills play in their education and career success, hindering their progress in developing these skills. This study aims to assess students' perceptions of the importance of soft skills for academic performance and career development. A questionnaire-based online survey was conducted, involving 968 undergraduate students from eight universities in Vietnam, to gather data. The findings showed that most respondents recognized the significance of soft skills in fostering positive relationships, career advancement, and securing desirable employment. However, students did not believe that these skills had a substantial impact on their academic performance. Communication, teamwork, collaboration, and time management skills were identified as the most critical soft skills for enhancing academic performance, while teamwork, collaboration, leadership, and problem-solving skills were considered pivotal for career development. Moreover, a significant portion of students perceived their soft skills level to be below the desired threshold, showing more confidence in skills they considered to be more important. Similarly, students tended to prioritize the development of soft skills that they perceived as essential to their personal goals.

#### **KEYWORDS**

soft skills, perception, students, academic performance, career development

# **1** INTRODUCTION

In today's society, soft skills are considered an extremely important factor contributing to an individual's success in both their personal and professional lives [1] [2]. These skills enable effective communication, relationship-building, and networking, enhancing overall work performance and facilitating task completion. Unlike

Ngo, T.T.A. (2024). The Importance of Soft Skills for Academic Performance and Career Development—From the Perspective of University Students. *International Journal of Engineering Pedagogy (iJEP)*, 14(3), pp. 53–68. https://doi.org/10.3991/ijep.v14i3.45425

Article submitted 2023-09-29. Revision uploaded 2024-01-17. Final acceptance 2024-01-17.

© 2024 by the authors of this article. Published under CC-BY.

technical or hard skills, which are associated with professional knowledge, soft skills encompass interpersonal and emotional abilities that are challenging to evaluate [3] [4]. Moreover, while hard skills can be improved more easily through training and education, soft skills are more difficult to develop [5].

The term "soft skills" has been defined in various ways. Generally, soft skills refer to intangible skills encompassing "personal, social, communication, and selfmanagement behaviors" [6]. Soft skills are "based on personal competencies and interpersonal skills" that include abilities such as "communication, teamwork, negotiation, self-awareness, self-motivation, self-control, decision-making, problemsolving, critical thinking, and time management skills" [6] [7] [8]. Previous research has identified essential soft skills for employment in the 21st century, such as "communication, creativity, and problem-solving skills" [9]. Tribble [10] expands the scope of soft skills to include "self-improvement, interpersonal relations, communication, career preparation, leadership, teamwork, self-discipline, self-confidence, good work ethic, and showing courtesy." When researching soft skills taught at Italian universities, Mangano [11] focused on eight types of skills: "problem-solving, analysis and synthesis of information, autonomous criticism, effective communication, lifelong learning, team working, organizing and planning, and initiative." Soft skills have been found to be crucial for personal fulfillment, employability, social participation, career development, social competence, and life satisfaction [12] [13].

Currently, employers are increasingly valuing soft skills, especially adaptability and adjustability to changes in the working environment. These skills, along with technical expertise, are criteria for recruiting and placing the right person in the right position [14] [15]. The increasing demand for soft skills in the job market has led to a greater emphasis on soft skills development among students. This is essential to ensuring that graduates are well-equipped to tackle workplace challenges. As soft skills are essential for lifelong learning, it is crucial for students to recognize their significance and strive to master them. The development of soft skills can occur during students' academic journeys and professional careers, facilitated by training, mentoring, coaching, and online platforms [16]. However, studies have shown that many students lack focus on developing their soft skills due to a lack of awareness about their importance, which leads to negative attitudes towards acquiring these skills [6]. Consequently, the soft skills possessed by the majority of graduates often fail to meet employers' requirements.

While numerous studies have explored various aspects of soft skills worldwide, most of these studies have been conducted in Europe and North America, where the learning context and work culture differ from those in Asian countries [17]. Additionally, the majority of research has focused on employers' perspectives, with limited attention given to students' attitudes towards soft skills. Therefore, this study aims to explore the perceptions of university students from various disciplines regarding the significance of soft skills for their academic performance and career development. The findings will assist educators and researchers in developing strategies to promote the development of soft skills among students, thereby enhancing their competitiveness in the labor market.

This study aims to address the following research questions:

- **1.** To what extent do university students perceive the importance of soft skills?
- 2. Which soft skills are considered essential for students' education and employment?
- 3. How do university students evaluate their level of soft skills?
- 4. Which soft skills do university students believe need further development?

# 2 METHODOLOGY

## 2.1 Research context and participants

Over the past few years, there has been a growing emphasis on developing soft skills among students in Vietnamese universities and colleges. This shift in focus is driven by the increasing demands of employers in the labor market, prompting educational organizations to prioritize enhancing students' awareness of the importance of soft skills. Consequently, many higher education organizations have implemented various initiatives to integrate soft skills development into both mainstream and extracurricular activities.

To investigate the perceptions of university students in Vietnam regarding the importance of soft skills for their education and career progression, this study gathered data from undergraduate students enrolled in eight different universities across the country. Participants were selected using a non-probability convenience sampling approach, and all individuals included in the research provided their informed consent before participation.

The data was collected through online surveys using a Google Form questionnaire. The questionnaire was sent to undergraduate students via email, inviting them to participate in the study. A total of 968 valid responses were obtained from students, with comparable numbers from eight Vietnamese universities.

The demographic characteristics of the respondents are presented in Table 1. Among the participants, 442 (45.66%) were male, and 526 (54.34%) were female. In terms of study year, 328 (33.88%) respondents were freshmen, 209 (21.59%) were sophomores, 268 (27.69%) were third-year students, and 163 (16.84%) were in their final year. The study included 22 majors representing seven fields of study, namely economics, information technology, linguistics, agriculture, engineering technologies, medicine, and others. The number of respondents varied across these fields, with the majors listed in descending order based on the frequency of respondents.

	Items	Frequencies (n = 968)	Percentage (%)
Gender	Male	442	45.66
	Female	526	54.34
Study year	First year	328	33.88
	Second year	209	21.59
	Third year	268	27.69
	Last year	163	16.84
Study fields	Economics	237	24.48
	Information Technology	214	22.11
	Agriculture	174	17.98
	Linguistics	153	15.81
	Engineering Technologies	96	9.92
	Medicine	83	8.57
	Other	11	1.13

**Table 1.** Demographic information of respondents (N = 968)

#### 2.2 Instrument and procedure

The research questionnaire used in this study was developed based on the work of Majid et al. [17] and Ramlan and Ngah [18], with necessary modifications to adapt it to the specific context of the research site. Specifically, certain soft skills, such as strategic thinking, passion for work, and responsibility, which were either unfamiliar or not acquired by students, were excluded from the study. Conversely, additional soft skills, such as planning and organizing skills, self-motivation, and self-direction, were included in the questionnaire as part of the curriculum at the universities under investigation. The questionnaire consisted of two main parts. The first part aimed to collect demographic information from the respondents, including gender, educational institution, year of study, and academic field. The second part comprised research questions that investigated how university students perceive the importance of soft skills and their relevance for education and career advancement. To ensure comprehensive data collection, the questionnaire utilized multiple-choice and rating scale questions. These questions were designed using a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree) [19].

Prior to conducting the empirical study, a pilot study was carried out to evaluate the reliability of the questionnaire. The Cronbach's alpha test was performed using SPSS software version 25, utilizing a sample of 50 responses. The results indicate that the questionnaire demonstrated high reliability, with a Cronbach's alpha value exceeding 0.9. This confirms the suitability of the questionnaire for effectively capturing data on university students' perceptions regarding the importance of soft skills.

The empirical study was conducted in September 2022, during which a total of 968 valid responses were collected. The data were analyzed using descriptive statistics, frequency tables, regression analysis, and ANOVA in SPSS 25 software. Descriptive statistics were used to summarize the demographic characteristics of the respondents, while frequency tables were employed to present the summarized responses to the research questions. The study utilized regression analysis to evaluate the relationship between the demographic characteristics of the participants and their perspectives on the significance of soft skills. Additionally, ANOVA analysis was employed to compare how perceptions of the significance of soft skills differed across various demographic groups.

## 3 **RESULTS**

#### 3.1 Awareness of soft skills

This section aims to assess students' comprehension of soft skills through a series of questions. Initially, participants were asked to define what soft skills included. The majority of respondents, comprising 61%, identified soft skills as "personal, social, communication, and self-management behaviors" [6]. Another 32% of participants viewed soft skills as complementary to hard skills, which are specific task-oriented abilities [20]. The remaining 7% provided alternative definitions, highlighting the existence of diverse conceptualizations of soft skills, which could potentially confuse students.

To further explore students' awareness of soft skills, a list of 12 specific soft skills was presented. When asked to identify which skills they think are soft skills, less than 170 out of 968 students (17.56%) chose all skills, indicating a limited understanding of the concept (see Figure 1). The results revealed the top five skills that were widely recognized as soft skills by more than 70% of respondents. These skills include communication skills (99.28%), teamwork and collaboration skills (92.67%), problem-solving

skills (85.95%), negotiation skills (77.07%), and leadership skills (73.55%). These findings align with previous research conducted by Maxwell et al. [21], which also identified communication and problem-solving as crucial soft skills.

However, certain personality attributes such as self-motivation, self-direction, and willingness to learn were not widely acknowledged as soft skills by the majority of students, with only 42.87% and 36.98% recognizing them, respectively. In addition, several respondents suggested other skills such as "project management skills," "adaptability," and "stress management" as potential soft skills.

In general, these findings highlight the varying understanding of soft skills among students and the prevailing recognition of certain skills such as communication, teamwork, problem-solving, negotiation, and leadership as essential soft skills, while some important attributes may be overlooked.



Fig. 1. Skills considered as soft skills by the respondents (multiple responses) (N = 968)

### 3.2 Perceived importance of soft skills

To assess the students' perception of the significance of soft skills, a series of statements were incorporated into the research questionnaire. The students were asked to choose either "strongly agree," "agree," "neutral," "disagree," or "strongly disagree" with the statements.

The results, presented in Table 2, indicated that a significant percentage of respondents expressed agreement (625, or 64.57%) and strong agreement (213, or 22%) with the statement that "soft skills are essential for career development." Additionally, 539 (55.68%) respondents agreed, and 174 (17.98%) respondents strongly agreed that "Soft skills are important for obtaining a better job." These findings are consistent with the study by Sarker et al. [22], which demonstrated that students with strong soft skills have a competitive edge in obtaining and handling employment opportunities.

In terms of the statement "Soft skills are as important as professional knowledge," over half of the respondents either agreed (358, or 36.98%) or strongly agreed (141, or 14.57%). This demonstrates the recognition that soft skills hold comparable significance to professional knowledge. While professional knowledge and hard skills are essential for finding employment, soft skills play a crucial role in retaining jobs [23]. Regarding

the potential for improving soft skills, a significant proportion of students agreed (489, or 50.52%) and strongly agreed (128, or 13.22%) that soft skills can be enhanced through practice. This aligns with the findings of [4], highlighting that soft skills can be developed through dedicated efforts, even though skills associated with social and emotional capabilities may require longer-term cultivation. Similarly, more than 50% of the respondents agreed (381, or 39.36%) and strongly agreed (109, or 11.26%) with the statement "Soft skills are harder to acquire than professional knowledge" [5]. This illustrates that students acknowledge the value and importance of soft skills for their overall success.

Overall, these results indicate that students generally recognize the significance of soft skills for career advancement and job opportunities. They also perceive soft skills as being equally important as professional knowledge, recognizing the potential for improvement through practice while acknowledging the challenges associated with acquiring soft skills compared to professional knowledge.

SD	D	Ν	А	SA
6	34	80	625	213
17	59	179	539	174
33	109	327	358	141
27	73	251	489	128
51	85	342	381	109
	SD           6           177           333           277           511	SD         D           6         34           17         59           33         109           27         73           51         85	SD         D         N           6         34         80           17         59         179           33         109         327           27         73         251           51         85         342	SD         D         N         A           6         34         80         625           17         59         179         539           33         109         327         358           27         73         251         489           51         85         342         381

<b>Tuble 2.</b> Ocheral perception of soft skin	Table 2.	General	perception	of soft	skills
---	----------	---------	------------	---------	--------

Notes: SD: strongly disagree; D: disagree; N: neutral; A: agree; SA: strongly agree.

The majority of participants (89%) acknowledged the necessity of soft skills in both academic and professional environments. However, 11% of students believed that soft skills were important only in the workplace and not relevant to their academic performance. This observation aligns with the findings of Feraco et al. [24], emphasizing the crucial role of soft skills in supporting students' academic achievements and enhancing their overall life satisfaction.

Figure 2 presents the primary reasons for the importance of soft skills in students' lives. Participants were asked to rate the importance of soft skills for different objectives on a scale from 1 (lowest proficiency) to 5 (highest proficiency). Among the provided purposes, the highest-rated reason for learning soft skills was "creating good relation-ships with others" (mean = 4.25). This was followed by "career development" and "finding a good job," with mean scores of 4.03 and 3.96, respectively. However, participants considered soft skills to be relatively less important for academic performance (mean = 3.34). This finding aligns with [13], which emphasized the importance of soft skills, especially communication skills, in creating job opportunities for individuals.



**Fig. 2.** Purposes for leaning soft skills (N = 968, Mean = 1–5)

In order to gain deeper insights into students' perceptions regarding the importance of different types of soft skills for academic performance and career development, they were requested to rate the level of importance of the 12 soft skills previously identified. The study results, as shown in Figure 3, revealed that the three most crucial soft skills for academic performance were communication (mean = 3.91), teamwork and collaboration (mean = 3.89), and time management (mean = 3.65). These results align with previous research that highlighted the paramount importance of "communication" as a core skill in higher education [25]. Conversely, for career development, the most significant soft skills were teamwork and collaboration, leadership, and problem-solving, with mean scores of 4.01, 3.98, and 3.95, respectively. These findings are consistent with a study by Ooi and Ting [26], which highlighted the importance of teamwork as one of the most desired skills by employers in the workplace.



Fig. 3. Importance of soft skills for academic performance and for career development (N = 968, Mean = 1-5)

### 3.3 Self-assessment of soft skills level

When evaluating their level of soft skills, students were not confident in their abilities. A significant majority of the respondents, 70.24%, considered their soft skills to be at an average level, while 18.06% perceived their soft skill level as weak or very weak. In contrast, only a small percentage believed their soft skills were at good or very good levels, with 10.65% and 1.05%, respectively. This lack of confidence in their soft skills can likely be explained by the absence of comprehensive soft skills training programs at school.

The analysis results of students' proficiency in soft skills show that the top three soft skills in which students expressed the highest confidence were problem-solving (Mean = 3.55), leadership skills (Mean = 3.44), and communication (Mean = 3.43).

In contrast, negotiation skills, willingness to learn, and self-motivation and selfdirection were evaluated at the lowest levels, with mean scores of 2.96, 2.94, and 2.75, respectively (see Figure 4).



Fig. 4. Self-assessment of the level of soft skills by the respondents (N = 968, Mean = 1–5)

To investigate the relationship between the perceived importance and the proficiency level of soft skills among university students, a correlation analysis was conducted. The results presented in Table 3 reveal strong relationships between the perceived importance of most soft skills and the level of proficiency demonstrated by the students. This implies that students assigned higher scores to the skills they deemed more important. Similar findings were observed by Majid et al. [17], where students also assigned higher scores to skills they perceived as significant.

Soft Skills	Correlation
Communication skills	.365 (**)
Teamwork and collaboration skills	.427 (**)
Problem-solving skills	.459 (**)
Negotiation skills	.327 (**)
Leadership skills	.167 (*)
Creative thinking skills	.235 (**)
Critical thinking skills	.283 (**)
Time management skills	.326 (**)
Planning and organizing skills	.423 (**)
Presentation skills	.402 (**)
Self-motivation and self-direction	.158 (*)
Willingness to learn	.338 (**)

**Table 3.** Correlation between perceived importance and soft skills level

*Notes:* \*\*Correlation is significant at the 0.01 level (2-tailed); \*Correlation is significant at the 0.05 level (2-tailed).

To evaluate the relationship between educational institutions and students' self-assessment of their soft skills level, a one-way ANOVA test was conducted. The results revealed a statistically significant correlation between students' level of soft skills and the university they attended (sig = 0.041 < 0.05), as shown in Table 4. This suggests that the perception of soft skills possessed by students varies among different universities. This difference can potentially arise from the implementation of unique soft skills training programs offered by each university.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10.368	7	2.184	3.204	
Within Groups	1561.152	960	1.618		.041*
Total	1571.520	967			

Table 4. One-way ANOVA test on the effect of students' school on students' soft skills level

Note: \*The mean difference is significant at the 0.05 level.

Based on the analysis, students' perceptions of their soft skills varied across different study fields. As shown in Table 5, economics students displayed the highest confidence in their soft skills (Mean = 4.62), followed by students in linguistics (Mean = 4.47), medicine (Mean = 4.25), and agriculture (Mean = 4.13). On the other hand, students in engineering technologies and information technology expressed a lower level of satisfaction with their soft skills, with mean scores of 3.92 and 3.58, respectively. The lower satisfaction levels among these students may be attributed to a curriculum that predominantly emphasizes technical and theoretical aspects, potentially omitting the comprehensive development of soft skills. Furthermore, the results of the one-way ANOVA test examining the impact of study fields on students' perceptions of soft skills indicated a significant difference at the 0.05 level, with sig. = 0.047 (sig < 0.05) (refer to Table 6). This suggests that the perception of soft skills among students significantly varies based on their chosen majors.

Study Field	n	Mean (1–5)	SD
Economics	237	4.62	1.36
Linguistics	153	4.47	1.40
Medicine	83	4.25	1.00
Agriculture	174	4.13	1.11
Engineering Technologies	96	3.92	1.35
Information Technology	214	3.58	1.37
Other	11	4.06	1.28

**Table 5.** Perception of soft skills possessed by students of different majors

Table 6. One-way ANOVA test on the effect of students' majors on students' soft skills level

	Sum of Squares	df	Mean Square	F	Sig.
Between groups	18.761	6	3.127	2.935	
Within Groups	1552.758	961	1.616		.047*
Total	1571.520	967			

*Note:* \*The mean difference is significant at the 0.05 level.

Regarding the students' study year, the average self-assessment scores for overall soft skills varied among the different groups. The results presented in Table 7 show that last-year students had the highest average score (Mean = 4.46), followed by third-year students (Mean = 4.38), second-year students (Mean = 4.25), and first-year students (Mean = 4.12). This indicates that last-year students tend to have a higher self-assessment of their soft skills compared to second-year and third-year students. This observation can be attributed to the accumulation of soft skills over time as students' progress in their studies [27]. However, the results of the one-way ANOVA test showed an insignificant value of 0.902 > 0.05 (refer to Table 8). This suggests that there was no significant difference in the self-assessed level of soft skills among students in different study years.

Year of Study	n	Mean (1–5)	SD
First year	328	4.12	1.25
Second year	209	4.25	1.29
Third year	268	4.38	1.28
Last year	163	4.46	1.41

<b>Fable 7.</b> Perception of soft skills posse	essed by students	s of the different s	tudy years
---	-------------------	----------------------	------------

Table 8. One-way ANOVA test on the effect of students' study year on students' soft skills level

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.936	3	3.12	1.92	
Within Groups	1570.583	964	1.629		.902
Total	1571.520	967			

Note: The mean difference is not significant at the 0.05 level.

#### 3.4 The need for soft skills improvement

After assessing their own soft skills, participants were asked to identify the skills they wanted to develop. The top three soft skills that students expressed a desire to develop were communication skills (64.36%), teamwork and collaboration skills (63.84%), and leadership skills (60.43%) (see Figure 5). These skills were also identified as the most crucial soft skills by students (refer to Figure 3). Following these, the next three skills that students aimed to improve were related to management and problem-solving abilities, namely time management skills (56.40%), problem-solving skills (54.75%), and planning and organizing skills (51.34%). In contrast, self-motivation and self-direction (28.51%) and willingness to learn (24.69%) were the skills that received less attention from students in terms of development. This indicates that students tend to prioritize the enhancement of soft skills that they perceive to be more crucial for their personal and professional growth.



Fig. 5. Soft skills needed for improvement (multiple responses) (N = 968)

# 4 **DISCUSSION**

This study has investigated the perceptions of university students regarding the importance of soft skills for their academic performance and career development. The results showed that the most considered soft skills were communication, teamwork, collaboration, problem-solving, negotiation, and leadership skills. This result is consistent with the findings by Maxwell et al. [21], who identified "communication and problem solving" as the most essential skills in the literature. Similarly, Ngo [27] found that communication is the most popular and most concerning soft skill among students. This is because it offers benefits such as boosting an individual's confidence and enhancing their ability to build positive relationships with others.

According to the research results, more than half of the respondents agreed or strongly agreed that soft skills are essential for securing a better job and are equally important as technical knowledge. These findings were in accordance with several previous studies [17] [22] [28]. For example, Sarker et al. [22] found that students with good soft skills are capable of obtaining and managing their jobs as they can "understand the expected behavior and requirements of employers," thereby having a higher probability of success in their future careers. Regarding the reasons that make soft skills important for students' lives, "creating good relationships with others" was considered the most important reason for learning soft skills, followed by "career development" and "finding a good job." According to Al Asefer and Zainal Abidin [23], employers often prefer to recruit individuals who exhibit proficiency in both hard skills and soft skills. Therefore, cultivating soft skills during university education is a strategic investment for students aspiring to have a more promising and successful future career [29]. On the other hand, students considered soft skills to be less important for academic performance. This is in accordance with the results of the earlier study by Rao [13], which recognized that soft skills, especially communication skills, are more important at work as they can generate good job opportunities for a person. Individuals with competent soft skills can easily build strong relationships with others and quickly adapt to new environments, enabling them to succeed in life.

Moreover, the study found that the top three significant soft skills for academic performance were communication, teamwork, collaboration, and time management skills. This result is consistent with previous research that found that "communication" was a core skill in higher education and the most important skill according to students [30] [31]. With effective communication and teamwork skills, students can connect with other people more easily and present their ideas and knowledge more effectively [25]. On the other hand, teamwork and collaboration, leadership, and problem-solving are considered the most essential soft skills for career development. This reflects the fact that the soft skills that students need in their careers differ from those required in the academic environment. A study by Ooi and Ting [26] showed that in the workplace, "participating as a part of a team" ranked third among the top important skills among employers. Moreover, engaging in teamwork and collaboration is known to enhance the "work spirit" and foster a "sense of belongingness" [31]. Lavender [32] suggests that for success in the workplace, employees must equip themselves with a diverse set of soft skills, including communication, problem-solving, teamwork, decision-making, leadership, critical thinking, time management, and creativity.

Overall, students lacked confidence in their soft skills abilities. Almost 90% of respondents considered their soft skills to be at an average level or lower. Among the top three soft skills, students felt most confident in problem-solving, leadership, and communication. This finding was similar to the results reported by Majid et al. [17] and Ngo [27]. This phenomenon of low confidence in soft skills among students could result from a lack of soft skills training programs for undergraduate students in many Vietnamese universities.

The analysis results indicated strong relationships between the perceived importance of most soft skills and the proficiency level of these skills among students. In fact, students gave higher scores to the skills that they considered to be more important. This is verified by Majid et al. [17], who discovered a similar result, with students scoring higher for skills they perceived to be important. And as a result, they are probably working hard to improve the skills they thought were essential to their lives.

Furthermore, the perception of students regarding their possession of soft skills varied across different study fields. Among the most confident with their soft skills are students in economics, linguistics, medicine, and agriculture. In contrast, the students in engineering technologies and information technology thought their level of soft skills was not as good as expected. This could be because economics students have better access to soft skills such as communication, negotiation, and leadership through mandatory courses in their curricula. Meanwhile, students in engineering and technology fields mainly focus on professional knowledge courses rather than soft skills [33]. The study conducted by de Campos et al. [34] highlights a critical gap that exists between engineering education, the job market, and societal needs. The findings reveal the inadequacy of new engineering graduates in possessing the essential skills required to navigate the dynamic and evolving work environment. To meet the current demands of the job market and society, a paradigm shift in engineering education is necessary. The traditional focus on technical and theoretical aspects must expand to incorporate a broader set of skills, as problem-solving capabilities are incomplete without a foundation in various soft skills. Moreover, it is essential for promoting lifelong learning and self-direction as crucial components of an engineer's skill set. This aligns with the evolving nature of engineering professions, where adaptability and continuous learning are paramount.

It is interesting that the final-year students obtained the highest score for selfassessment on soft skills level, followed by the third-year students and the second-year students, and the lowest score was found for first-year students. This can be explained by the accumulation of soft skills over time through personal and professional projects, internships, and extracurricular activities [35]. Last year, students studied for nearly 4 to 5 years in university. They were trained in certain skills through specialized subjects, soft skills courses, extracurricular activities in student clubs, social activities, and practical experiences [27].

Finally, students considered communication, teamwork, collaboration, and leadership skills as the top soft skills they most wanted to develop. This means that students tend to focus on developing soft skills that are perceived to be more crucial to them. The findings of this study are in line with the research of Majid et al. [17], which identified students' desire to improve soft skills deemed important to them.

Many researchers and educators have identified a significant gap between the soft skills expected by employers and the actual level of soft skills possessed by graduates [36]. This underscores the imperative for a paradigm shift in higher education to bridge the gap between academic preparation and the demands of the contemporary job market. Recognizing the vital role of soft skills, there is an urgent call to proactively integrate them into the educational curriculum. It is crucial to enhance student awareness of the importance of soft skills for their academic performance and career advancement, especially among engineering students, who often prioritize hard skills over soft skill development. As education significantly influences students' soft skills [34], educators and policymakers should develop specialized academic programs, particularly for engineering professionals, to establish an environment conducive to learning and practicing these skills. This approach aims to equip graduates with the confidence and readiness required for success in both academic and professional environments. The study advocates for a comprehensive approach to engineering education, emphasizing not only technical expertise but also interpersonal and communication skills essential for professional success. Proposed strategies include offering specialized soft skills training, integrating soft skills into existing courses and extracurricular activities, and providing opportunities for students to practice and enhance crucial skills such as communication, teamwork, critical and creative thinking, and problem-solving.

## 5 CONCLUSION AND RECOMMENDATION

The main goal of this study is to assess the students' perceptions of the importance of soft skills in academic performance and career development. The results showed that the majority of Vietnamese undergraduate students recognized the importance of soft skills for both academic and work environments, despite their limited understanding of the concept of soft skills. According to the students, the reasons that made soft skills important to them were "creating good relationships with others," "career development," and "finding a good job." Moreover, the study findings indicate that the three most important soft skills for students' academic performance are communication, teamwork, collaboration, and time management skills. Meanwhile, teamwork and collaboration, leadership, and problem-solving were considered the most important soft skills for career development. Furthermore, the study revealed that many students identified their overall soft skills level as below the desired level. Noticeably, students felt more confident about the skills they considered more important. The study also found that students tend to prioritize the development of soft skills perceived as more important to them, such as teamwork and collaboration skills and communication skills. The findings of this research provide a foundation

Ngo

for future studies aimed at developing solutions to enhance the soft skills competencies of university students.

This study has several limitations. Firstly, the reliance on self-reported data introduces the potential for self-report bias. Students' responses may be influenced by social desirability or subjective interpretations, which can lead to potential discrepancies between their perceived and actual soft skills competencies. It would be beneficial for future studies to incorporate objective assessments, such as performance evaluations or standardized tests, to complement self-report measures and provide a more objective evaluation of students' soft skills. Another limitation is the participants' limited understanding of soft skills. The study acknowledged that the students had a limited understanding of the concept, which could have impacted their perceptions and responses. To address this limitation, future research could incorporate educational interventions aimed at raising awareness and enhancing students' understanding of soft skills. Furthermore, the lack of objective measures to assess soft skills is a significant limitation. Employing objective assessments, such as performance-based tasks or standardized assessments, in future studies would enhance the reliability and validity of soft skills evaluations. This would enable a more comprehensive and accurate assessment of students' soft skills competencies. Importantly, conducting longitudinal studies in future research would provide insights into the development and impact of soft skills over time, allowing for a more comprehensive understanding of their long-term effects.

# 6 **REFERENCES**

- S. Gibb, "Soft skills assessment: Theory development and the research agenda," *International Journal of Lifelong Education*, vol. 33, no. 4, pp. 455–471, 2014. <u>https://doi.org/10.1080/02601370.2013.867546</u>
- [2] L. Zaman, A. R. Sarker, and N. Akhter, "Study on practice of soft skill among the workforce: A case from ready made garment (RMG) industry of Bangladesh," *International Journal of Asian Social Science*, vol. 8, no. 10, pp. 808–8018, 2018. <u>https://doi.org/10.18488/</u> journal.1.2018.810.808.818
- [3] N. K. Abujbara and J. A. Worley, "Leading toward new horizons with soft skills," On the Horizon, vol. 26, no. 3, pp. 247–259, 2018. https://doi.org/10.1108/OTH-10-2017-0085
- [4] S. C. Wesley, V. P. Jackson, and M. Lee, "The perceived importance of core soft skills between retailing and tourism management students, faculty and businesses," *Employee Relations*, vol. 39, no. 1, pp. 79–99, 2017. https://doi.org/10.1108/ER-03-2016-0051
- [5] S. Riahi, "Strengthening the teaching of soft skills in the pedagogical architecture of Moroccan Universities," *International Journal of Engineering Pedagogy (iJEP)*, vol. 12, no. 4, pp. 47–62, 2022. <u>https://doi.org/10.3991/ijep.v12i4.22329</u>
- [6] P. Klaus, J. M. Rohman, and M. Hamaker, The Hard Truth about Soft Skills: Workplace Lessons Smart People Wish They'd Learned Sooner. New York: Klaus & Associates, 2007. Retrieved from <u>http://www.r-5.org/files/books/ethology/corporate/behaviour/Peggy\_Klaus-The\_Hard\_Truth\_About\_Soft\_Skills-EN.pdf</u>
- [7] C. J. Brungardt, "College graduates' perceptions of their use of teamwork skills: Soft skill development in Fort Hays State University leadership education," Ph.D. Dissertation, Kansas State University. Available from ProQuest Dissertations and Theses (UMI No. 3389821), 2009. Retrieved from <u>https://core.ac.uk/download/pdf/5166182.pdf</u>
- [8] K. B. Hargis, "Career and technical education program alignment with local workforce needs," Ed.D. Dissertation, Eastern Kentucky University. Available from ProQuest Dissertations and Theses Full Text database (UMI No. 3488204), 2011. Retrieved from https://encompass.eku.edu/cgi/viewcontent.cgi?article=1047&context=etd

- C. Chaka, "Skills, competencies and literacies attributed to 4IR/Industry 4.0: Scoping review," *IFLA Journal*, vol. 46, no. 4, pp. 369–399, 2020. <u>https://doi.org/10.1177/</u> 0340035219896376
- [10] L. S. Tribble, "The importance of soft skills in the workplace as perceived by community college instructors and industries," Ph.D. Dissertation, Mississippi State University. Available from ProQuest Dissertations and Theses (UMI No.3386351), 2009. Retrieved from https://scholarsjunction.msstate.edu/cgi/viewcontent.cgi?article=5528&context=td
- [11] S. Mangano, "Soft skills in Italian University: First results from CT3 survey," in *Soft Skills and Their Role in Employability New Perspectives in Teaching, Assessment and Certification*, Workshop in Bertinoro, FC, Italy, 2014.
- [12] M. O. Bruna, A. C. Brabete, and J. M. A. Izquierdo, "Reliability generalization as a seal of quality of substantive meta-analyses: The case of the VIA Inventory of Strengths (VIA-IS) and their relationships to life satisfaction," *Psychological Reports*, vol. 122, pp. 1167–1188, 2018. https://doi.org/10.1177/0033294118779198
- [13] M. S. Rao, "Step by step to soft-skills training: How to enhance employability skills in students," *Human Resource Management International Digest*, vol. 23, no. 6, pp. 34–36, 2015. https://doi.org/10.1108/HRMID-06-2015-0099
- [14] L. L. Fong, G. K. Sidhu, and C. Y. Fook, "Exploring 21st century skills among postgraduates in Malaysia," *Procedia – Social and Behavioral Sciences*, vol. 123, pp. 130–138, 2014. https://doi.org/10.1016/j.sbspro.2014.01.1406
- [15] Y. M. Khata, M. Sukri, S. M. S. Syed, and N. Haszlinna, "Employability skills element's: Difference perspective between teaching staff and employers industrial in Malaysia," *Procedia – Social and Behavioral Sciences*, vol. 93, pp. 1531–1535, 2013. <u>https://doi.org/10.1016/j.sbspro.2013.10.077</u>
- [16] S. L. Rynes, A. M. Lawson, and R. Ilies, "Behavioural coursework in business education: Growing evidence of a legitimacy crisis," *Academy of Management Learning & Education*, vol. 2, no. 3, pp. 269–283, 2003. https://doi.org/10.5465/amle.2003.10932135
- [17] S. Majid, Z. Liming, S. Tong, and S. Raihana, "Importance of soft skills for education and career success," *International Journal for Cross-Disciplinary Subjects in Education (IJCDSE)*, vol. 2, no. 2, pp. 1036–1042, 2012. <u>https://doi.org/10.20533/ijcdse.2042.6364.2012.0147</u>
- [18] R. Ramlan and S. Ngah, "Student perception on the importance of soft skills for education and employment," *PEOPLE: International Journal of Social Sciences*, vol. 1, no. 1, pp. 696–708, 2015. https://doi.org/10.20319/pijss.2015.s11.696708
- [19] A. Zainudin, A. Asyraf, and M. Mustafa, "The Likert scale analysis using parametricbased structural equation modeling (SEM)," *Computational Methods in Social Sciences*, vol. 4, no. 1, pp. 13–21, 2016. <u>http://cmss.univnt.ro/wp-content/uploads/vol/split/vol\_IV\_</u> issue\_1/CMSS\_vol\_IV\_issue\_1\_art.002.pdf
- [20] B. Cimatti, "Definition, development, assessment of soft skills and their role for the quality of organizations and enterprises," *International Journal of Quality Research*, vol. 10, no. 1, pp. 97–130, 2016. <u>http://doi/10.18421/IJQR10.01-05</u>
- [21] G. Maxwell, B. Scott, D. Macfarlane, and E. Williamson, "Employers as stakeholders in post-graduate employability skills development," *International Journal of Management Education*, vol. 8, no. 2, pp. 1–11, 2010. https://doi.org/10.3794/ijme.82.267
- [22] Md. A. R. Sarker, J. B. Hashim, A. Haque, and N. B. Juhdi, "Graduate employability: Perception of graduate students on soft skills towards employability in Bangladesh," *Journal of International Business and Management*, vol. 4, no. 4, pp. 1–14, 2021. <u>https://doi.org/10.37227/jibm-2021-03-87/</u>
- [23] M. Al Asefer and N. S. Zainal Abidin, "Soft skills and graduates' employability in the 21st century from employers' perspectives: A review of literature," *International Journal of Infrastructure Research and Management*, vol. 9, no. 2, pp. 44–59, 2021. <u>https://iukl.edu.</u> my/rmc/wp-content/uploads/sites/4/2022/02/5.-Al-Asefer\_compressed.pdf

- [24] T. Feraco, D. Resnati, D. Fregonese, A. Spoto, and C. Meneghetti, "An integrated model of school students' academic achievement and life satisfaction. Linking soft skills, extracurricular activities, self-regulated learning, motivation, and emotions," *European Journal of Psychology of Education*, vol. 38, pp. 109–130, 2023. <u>https://doi.org/10.1007/</u> s10212-022-00601-4
- [25] A. R. López, J. E. Souto, and M. L. A. Noblejas, "Improving teaching capacity to increase student achievement: The key role of communication competences in higher education," *Studies in Educational Evaluation*, vol. 60, pp. 205–213, 2019. <u>https://doi.org/10.1016/</u> j.stueduc.2018.10.002
- [26] K. B. Ooi and S. H. Ting, "Employers' emphasis on technical skills and soft skills in job advertisements," *The English Teacher*, vol. 44, no. 12, pp. 1–12, 2017. <u>https://</u> meltajournals.com/index.php/TET/article/view/87/84
- [27] T. T. A. Ngo, "Current situation of soft skills training for students at FPT Can Tho University," VNU Journal of Science: Education Research, vol. 38, no. 2, 2022. <u>https://doi.org/10.25073/2588-1159/vnuer.4620</u>
- [28] M. S. Kalauz, G. Hudec, and V. Kirinić, "Soft skills perception among students: Importance and performance," in *Central European Conference on Information and Intelligent System. Proceedings, CECIIS, 26th International Conference*, 2015, pp. 89–95. <u>https://doi.org/10.1016/j.sbspro.2013.10.077</u>
- [29] E. Charlton, "These are the 10 most in-demand skills, according to LinkedIn," *World Economic Forum*, 2019. <u>https://www.weforum.org/agenda/2019/01/most-in-demand-skills-asper-linkedin/</u>
- [30] Z. Chmelárová and L. Pasiar, "Attitudes of economics students towards teamwork at University," *International Journal of Engineering Pedagogy (iJEP)*, vol. 13, no. 6, pp. 4–16, 2023. https://doi.org/10.3991/ijep.v13i6.39733
- [31] M. A. Gómez, R. F. Herrera, E. Atencio, and F. C. Munoz-La Rivera, "Key management skills for integral civil engineering education," *International Journal of Engineering Pedagogy* (*iJEP*), vol. 11, no. 1, pp. 64–77, 2021. https://doi.org/10.3991/ijep.v11i1.15259
- [32] J. Lavender, "Soft skills for hard jobs," *Journal of Continuing Education Topics and Issues*, vol. 21, no. 2, pp. 48–52, 2019. <u>https://www.thefreelibrary.com/Soft+Skills+for+</u>Hard+Jobs.-a0592138127
- [33] P. A. Maher, J. M. Bailey, and A. M. Tucka, "Teaching process skills to pre-engineers using situated learning – A case study," *International Journal of Engineering Pedagogy (iJEP)*, vol. 8, no. 5, pp. 121–147, 2018. https://doi.org/10.3991/ijep.v8i5.9036
- [34] D. B. de Campos, L. M. M. de Resende, and A. B. Fagundes, "The importance of soft skills for the engineering," *Creative Education*, vol. 11, pp. 1504–1520, 2020. <u>https://doi.org/10.4236/ce.2020.118109</u>
- [35] K. M. Johnson, "Non-technical skills for IT professionals in the landscape of social media," *American Journal of Business and Management*, vol. 4, no. 3, pp. 102–122, 2016. <u>https://</u>doi.org/10.11634/216796061504668
- [36] A. Singh and P. Jaykumar, "On the road to consensus: Key soft skills required for youth employment in the service sector," *Worldwide Hospitality and Tourism Themes*, vol. 11, no. 1, pp. 10–24, 2019. https://doi.org/10.1108/WHATT-10-2018-0066

# 7 AUTHOR

**Thi Thuy An Ngo** is a Business Lecturer and is working as Head of Department of Soft Skills at FPT University, Can Tho, Vietnam. Her research interests include education, innovative marketing, consumer behavior, social media communication, entrepreneurship, and sustainable development (E-mail: <u>anntt24@fe.edu.vn</u>).