Assessing the Soft Skills Development of Undergraduate Business Administration Students

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Abstract– Soft skills have acquired great importance over the years and have become essential in the work environment, since professionals need to master these skills to perform adequately. However, there is uncertainty about whether students are prepared in soft skills upon graduation from universities. The purpose of this article is to examine the development of soft skills in higher education institutions. The higher education institutions have been selected on the basis that they are representative of the city of Arequipa. We conducted a survey in four universities during two periods, August and December 2019. These universities offer business administration programs and represent a population of 5,927 students. An 83-question questionnaire was administered to a non-probability convenience sample of 311 undergraduate students. 63.3% of students showed moderate soft skills development. This study highlights the importance of university leaders fostering the development of competencies in their students, through the implementation of strategies in undergraduate courses.

Keywords-- Soft-skill development; work environment; business administration; education; undergraduate students.

I. INTRODUCTION

In recent years there has been a growing demand from companies for professionals with good levels of soft skills to succeed. This can be clearly seen in national surveys [1], job advertisements [2], [3], job profiles [4]. So, both educators and industry representatives recognize that interpersonal skills are essential to an individual's development and the productive development of the company [5], [6]. However, many employers believe that recent graduates do not have the right skills to perform in the world of work [7], which generates dissatisfaction with the training of university graduates [8].

Many studies have demonstrated the effectiveness of social skills in job and career success. Research conducted a century ago and maintained to this day by Harvard University, the Carnegie Foundation and Stanford Research Center, concluded that soft skills contribute 85% to success, while hard skills (knowledge acquired) make up only the remaining 15% [9]. In addition, employment and wage growth was particularly strong in jobs requiring a high level of mathematical and social skills [1], i.e., soft and technical skills. Soft skills not only help in professional success but also in academic success. For example, the achievement of the learning outcomes [10] and student academic success [11]. Therefore, universities are expected to provide students with soft skills in the same way as technical or hard skills. Of course, taking into account certain constraints, like limited class time, and if time is increased for interpersonal skills training, the teaching of technical skills should be minimized [12].

There is no common definition of soft skills because it is ample and broad [13]. It is usually associated with several terms and concepts like job skills [2], personal attributes and interpersonal qualities [14], emotional intelligence [15], [16], interpersonal skills [17], social competence [18], life skills [19], non-technical competencies [20], practical intelligence [21], employability skills [22] and 21st-century skills [3]. Despite these numerous terms for defining interpersonal competencies, they all agree on issues of effective communication, interaction with others and adequate awareness of different social conditions. Other considerations for better understanding interpersonal competencies and achieving quality in the organization can be found in [5].

Assessing the development of interpersonal competencies is challenging. Just as interpersonal competencies cannot be easily defined, neither can they be easily measured [5], [7]. Many researchers have opted for a specific set of skills to assess them, such as critical thinking, communication, teamwork or ethical attitudes. For example, interpersonal competencies preferred by education experts and managers worldwide [23], interpersonal skills perceived as most important by business executives in the workplace [14], non-technical skills to assess students' intra- and interpersonal skills [24], the most important interpersonal competencies collected in the literature and refined with the opinions of lecturers, industry and students [7], the 21st century skills for job success gathered from the literature and identified as the most sought after by employers in job advertisements [3]. From these sources, we compiled a list of five soft skills considered as the most important for job success and organizational effectiveness: Communication (C) [3], [7], [14], problem solving (S) [3], leadership (L) [3], [7], decision making (T) [7] and creativity (CR) [3].

The objective of this study is to examine the development of soft skills in higher education in the dimensions of communication, problem solving, leadership, decision making and creativity. The findings lead us to believe that undergraduate students have only moderate levels of development. These findings are not great, but they are also not terrible. Other research evaluating techniques to enhance soft skills and effective and efficient learning in higher education may find this study of interest.

II. Materials and Methods

A. Participants

Data from four universities' student surveys were gathered between August and December 2019. The four colleges that offered business administration degrees in total had 5,927 students enrolled. Non-probability convenience sampling of sections was utilized at each university to gather information from a total of 311 undergraduate students. Table I displays the total number of students questioned at each university.

TABLE I
NUMBER OF STUDENTS BY UNIVERSITY

University	Public/Private	Students	Percentage (%)
Universidad Nacional de San Agustín (UNSA)	Public	86	27.7
Universidad Tecnológica del Perú (UTP)	Private	56	18.0
Universidad Católica San Pablo (UCSP)	Private	74	23.8
Universidad Católica de Santa María (UCSM)	Private	95	30.5
Total		311	100.0

B. Instrument

The questionnaire contains 83 questions on five soft skills, including communication (15), problem-solving (16), leadership (18), decision-making (18), and creativity (16), as well as demographic data (Table II). The mindtools.com skills self-assessment surveys served as the basis for all soft skill components, which were all assessed on a five-point Likert scale from 1 (never) to 5 (always).

TABLE II
SAMPLE

Variables	Frequency (%)
Gender	
Female	230 (73.96%)
Male	81 (26.05%)
Total	311 (100%)
Age	
21	188 (60.5 %)
22	70 (22.5%)
23	30 (9.7 %)
24	13 (4.2 %)
25	9 (2.9 %)
26	1 (0.3 %)
Total	311 (100%)

C. Instrument Reliability

The instrument had a pilot test with 50 engineering undergraduates from Universidad Nacional de San Agustin de Arequipa and demonstrated high internal consistency with a Cronbach's alpha score of 0.837. Additionally, alternate forms were computed giving us the result of 0.841, which indicates that nearly all of the items from both versions were tagged similarly. As per [25], revisions were also based on student feedback and ideas.

D. Procedure

A pilot test was used to verify the reliability of the questionnaire, and it demonstrated strong internal consistency and a good coefficient of alternative forms. The necessary permits were sought from the institutions' appropriate authorities prior to the device being used. Then, a survey was handed out in person to each student (230 women and 81 men) attending the universities in the city of Arequipa. Students who took part in this study were made aware of its goals and procedures.

E. Data Analysis

JASP and SPSS were used to analyze the data. Means and standard deviation were mostly described using descriptive statistics. In order to compare the level of soft skills by gender, an independent t-test for two samples was also used. ANOVA was also employed to examine variations in the development of soft skills among colleges.

III. Results

A. Levels of Soft Skills Development

According to Table III, most students (63.3%) have developed their soft skills to a moderate degree, while only 36.7% have reached a high level. Leadership (48.2%) and communication (40.8%), however, stand out as having high values (Table IV).

TABLE III
LEVEL OF DEVELOPMENT OF SOFT SKILLS

		Frequency	Percentage (%)
	Low	0	0
Soft skills	Moderate	197	63.3
	High	114	36.7
Total		311	100.0

TABLE IV
LEVEL OF DEVELOPMENT OF SPECIFIC SOFT SKILLS

		Frequency	Percentage (%)
	Low	7	2.3
Communication	Moderate	177	56.9
	High	127	40.8
	Low	6	1.9
Problem solving	Moderate	188	60.5
	High	117	37.6
	Low	0	0
Leadership	Moderate	161	51.8
	High	150	48.2
	Low	2	0.6
Decision making	Moderate	200	64.3
	High	109	35
	Low	3	1
Creativity	Moderate	199	64
	High	109	35
Total		311	100.0

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B. Soft Skills by Gender

According to Table V, similar proportions of men and women were found to have acquired soft skills, with 62.2% of women and 66.7% of men having a moderate level, and 37.8% of women and 33.3% of men having a high level.

TABLE V
SOFT SKILL DEVELOPMENT BY GENDER

Gender	Development of soft skills			Total
	Low	Moderate	High	
Female	0	143	87	230
	0.00%	62.2%	37.8%	100%
Male	0	54	27	81
	0.00%	66.7%	33.3%	100%
Total		197	114	

The development of soft skills among the students assessed based on their gender did not differ statistically (t(309)= 1.264; p=.209, Table VI).

TABLE VI
INDEPENDENT T-TEST FOR TWO SAMPLES

Gender	N	Mean	SD	t	df	p-value
Female	230	204	19.23	1.26	309	0.209
Male	81	200	24.47			

When evaluating each skill separately, it is observed that women communicate more successfully (42.6%) than males (35.8%). According to Table VII, men (38.3%) make better decisions than women (33.9%). This could suggest that female students learn skills in a different way from male students.

TABLE VII
DEVELOPMENT OF SPECIFIC SKILLS BY GENDER

Gender	Comunication			Total
	Low	Moderate	High	
Female	1	131	98	230
	0.40%	57%	42.6%	100%
Male	6	46	29	81
	7.40%	56.8%	35.8%	100%
	Problem solving			
	Low	Moderate	High	
Female	2	140	88	230
	0.9%	60.9%	38.3%	100%
Male	4	48	29	81
	4.9%	59.3%	35.8%	100%
	Leadership			
	Low	Moderate	High	
Female	0	118	112	230
	0%	51.3%	48.7%	100%
Male	0	43	38	81
	0%	53.1%	46.9%	100%
	Decision making			
	Low	Moderate	High	
Female	0	152	78	230
	0%	66.10%	33.9%	100%
Male	2	48	31	81
	2.5%	59.3%	38.3%	100%

	Creativity			
	Low	Moderate	High	
Female	2	147	81	230
	0.9%	63.9%	35.2%	100%
Male	1	52	28	81
	1.2%	64.2%	34.6%	100%

In terms of communication skills, there were statistically significant differences (U= 7877; p=.038), with women scoring higher than men in Table VIII. The qualities of leadership, decision-making, creativity, and problem-solving, however, did not show any statistically significant differences (p>.05).

TABLE VIII
MANN-WHITNEY U TEST

N=311	Gender	N	Average range	Mann-Whitney U	Z	p-value
Communication	Female	230	162.25	7877	-2.073	0.038
	Male	81	138.25			
Problem solving	Female	230	159.2	8579.5	-1.06	0.289
	Male	81	146.92			
Leadership	Female	230	156.87	9114.5	-0.288	0.773
	Male	81	153.52			
Decision making	Female	230	157.53	8963	-0.507	0.612
	Male	81	151.65			
Creativity	Female	230	158.77	8678	-0.917	0.359
	Male	81	148.14			

C. Soft Skills According to the University

According to Table IX, students in the UCSP (48.6%) and UTP (41.1%) have developed their soft skills more than those in the UNSA (23.3%), who have done so less.

TABLE IX
DEVELOPMENT OF SOFT SKILLS BY UNIVERSITY

	Low	Moderate	High	Total
UNSA	0	66	20	86
	0%	76.7%	23.3%	100%
UTP	0	33	23	56
	0%	58.9%	41.1%	100%
UCSP	0	38	36	74
	0%	51.4%	48.6%	100%
UCSM	0	60	35	95
	0%	63.2%	36.8%	100%

Statistically significant differences were found in the development of soft skills among the students of the different universities (F(3, 307)= 7.917; p< .001), Table X.

TABLE X
ANOVA: DEVELOPMENT OF SOFT SKILLS

	N	Mean	SD	F	df	p-value
UNSA	86	194.84	19.661	7.917	3	0
UTP	56	209.13	25.106			
UCSP	74	207.68	15.499			
UCSM	95	201.53	20.309			
Total	311	202.51	20.745			

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By means of the multiple comparison method with the Bonferroni correction, Table XI, it was found that the students of UTP and UCSP are those who present a greater development of soft skills; while the students of UNSA present a lower development of soft skills.

TABLE XI
MULTIPLE COMPARISONS: DEVELOPMENT OF SOFT SKILLS

(I) Univesity	(J) University	Difference of averages (I-J)	p-value
UNSA	UTP	-14.288*	0.000
	UCSP	-12.838*	0.000
	UCSM	-6.689	0.156
UTP	UNSA	14.288*	0.000
	UCSP	1.449	1.000
	UCSM	7.599	0.153
UCSP	UNSA	12.838*	0.000
	UTP	-1.449	1.000
	UCSM	6.149	0.295
UCSM	UNSA	6.689	0.156
	UTP	-7.599	0.153
	UCSP	-6.149	0.295

More specifically, Table XII shows that students in the UCSP have higher levels of leadership (64.9%), decision-making (45.9%), and communication (48.6%), whereas students in the UTP have higher levels of creativity (50%) and problem-solving (42.9%).

TABLE XII
DEVELOPMENT OF SPECIFIC SOFT SKILLS BY UNIVERSITY

	Communication			
	Low	Moderate	High	Total
UNSA	4	53	29	86
	4.7%	61.6%	33.7%	100%
UTP	0	34	22	56
	0%	60.7%	39.3%	100%
UCSP	0	38	36	74
	0%	51.4%	48.6%	100%
UCSM	3	52	40	95
	3.2%	54.7%	42.1%	100%
	Problem solving			
	Low	Moderate	High	
UNSA	6	56	24	86
	7%	65.1%	27.9%	100%
UTP	0	32	24	56
	0%	57.1%	42.9%	100%
UCSP	0	44	30	74
	0%	59.5%	40.5%	100%
UCSP	0	56	39	95
	0%	58.9%	41.1%	100%
	Leadership			
	Low	Moderate	High	
UNSA	0	54	32	86
	0%	62.8%	37.2%	100%
UTP	0	23	33	56
	0%	41.1%	58.9%	100%
UCSP	0	26	48	74
	0%	35.1%	64.9%	100%
UCSM	0	58	37	95
	0%	61.1%	38.9%	100%
	Decision making			
	Low	Moderate	High	
UNSA	2	63	21	86
	2.3%	73.3%	24.4%	100%
UTP	0	33	23	56
	0%	58.9%	41.1%	100%
UCSP	0	40	34	74
	0%	54.1%	45.9%	100%
UCSM	0	64	31	95
	0%	67.4%	32.6%	100%
	Creativity			
	Low	Moderate	High	
UNSA	0	66	20	86
	0%	76.7%	23.3%	100%
UTP	1	27	28	56
	1.8%	48.2%	50.0%	100%
UCSP	2	44	28	74
	2.7%	59.5%	37.8%	100%
UCSM	0	62	33	95
	0%	65.3%	34.7%	100%

The Kruskal-Wallis test findings revealed statistically significant differences in creativity (H=12.838; p=.005) and problem-solving skills (H=12.376; p=.006), with students from the UTP and then UCSP receiving the highest scores in both instances, Table XIII; Additionally, leadership (H=21.719; p.001) and decision-making (H=16.922; p.001) showed disparities. Students from UCSP, followed by UTP, got the greatest results in these instances. It should be highlighted that public university (UNSA) students have the lowest marks across the board for all skills.

TABLE XIII
MULTIPLE COMPARISONS: DEVELOPMENT OF SOFT SKILLS

	University	N	Average range	H of Kruskal-Wallis	df	p-palue
Communication	UNSA	86	139.11	7.125	3	.068
	UTP	56	172.46			
	UCSP	74	170.12			
	UCSM	95	150.59			
Problem solving	UNSA	86	128.42	12.376	3	.006
	UTP	56	176.65			
	UCSP	74	166.54			
	UCSM	95	160.58			
Leadership	UNSA	86	131.28	21.719	3	.000
	UTP	56	172.26			
	UCSP	74	190.62			
	UCSM	95	141.82			
Decision making	UNSA	86	126.56	16.922	3	.001
	UTP	56	169.71			
	UCSP	74	182.19			
	UCSM	95	154.17			
Creativity	UNSA	86	133.16	12.838	3	.005
	UTP	56	186.77			
	UCSP	74	163.73			
	UCSM	95	152.52			

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IV. Discussion

This study assesses several crucial labor market competencies that undergrads in business administration should acquire. On a three-level scale (low, moderate, and high), a sample of 311 students from four universities in Arequipa demonstrated a moderate level of soft skill development. Leadership and communication are the two most highly valued skills (48.2% and 40.8%, respectively). Since it only reaches half the percentage, tremendous work will be needed to raise these levels.

Soft skill development is comparable between men and women. Men somewhat outperform women in terms of decision-making, whereas women slightly outperform men in terms of communication. This is in line with the findings of Jardim et al. [24], which show that males do better in individualistic skills (resilience) and that females score relatively well in interpersonal skills (self-determination, empathy, social support, and teamwork).

Soft skill development is greater at private universities than in public universities, as evidenced by the fact that UCSP and UTP students outperformed UNSA students in this study. Students at UCSP excel in the areas of communication, leadership, and decision-making, whereas those at UTP excel in the areas of creativity and problem-solving. Further research is required to determine the factors that contribute to private universities ranking higher than national universities. However, we can provide some reasons based on our experience working in both types of universities, which are listed as follows: Private universities had included digital learning platforms into their pedagogical approaches before the national university. The educational paradigm used by the national university is more traditional and often does not include technology into its teaching methods. The advantages of ICT in the educational process have been extensively addressed [26], which may help the development of some skills including leadership, teamwork, and communication. Private institutions, on the other hand, encourage more social activities than public universities, such as recycling drives, sporting events, chess competitions, etc., where students can develop their social skills. National colleges typically place more of an emphasis on learning new information and theoretical concepts than on enhancing social skills.

Companies nowadays are seeking candidates with strong technical and interpersonal abilities. Nonetheless, these businesses frequently have concerns about the way fresh graduates have developed their abilities. Furthermore, it is thought to be difficult to build interpersonal skills [7]. In order to facilitate and improve the efficiency of this process, academia is crucial [6]. University courses that incorporate processes and instructional techniques may help students enhance their abilities for the workforce. As in [27], where the evaluation of the work-based learning approach produced positive results in the improvement of interpersonal skills, and [28], where the 4C (constructive, critical, creativity, collaborative) learning model enhances critical thinking.

Additionally, programs that emphasize soft skills development aid in academic achievement [10], [11].

Students must acquire the skills that businesses need today since they are crucial to both the success of the business and the individual's overall growth. At the start of class activities, it is advised that the student be made aware of the importance of soft skills. Create spaces, flexible routines, exhibitions, games, events, and social gatherings that promote connection, communication, and socialization. Taylor offers more commentary and suggestions [7]. In order to close the gap and ensure the delivery of high-quality human resources, it is also necessary to emphasize collaboration or dialogue between industry and academia [6], [8]. Internships or company visits are two examples. Managerial experience among students can help them develop their soft skill set [10]. Additionally, in order to deliver successful and high-quality instruction, teachers must strengthen their interpersonal skills [29].

Initiatives in universities that support the development of soft skills is expected to increase as a result of this research. More research and innovation are needed to incorporate the development of soft skills in university students in order to meet the current needs of businesses. Strategies that can assist the thorough development of soft skills in university students are needed also for future work.

V. Conclusion

This study highlights the importance of developing soft skills during university education, shows differences in the development of these skills between genders and universities, and suggests that collaboration between industry and academia is essential to prepare students effectively for the labor market.

According to the data presented in Tables III and IV, most students (63.3%) have developed their soft skills to a moderate level, while only 36.7% have reached a high level. However, leadership (48.2%) and communication (40.8%) skills stand out as having higher values.

No statistically significant differences are observed in the development of soft skills between men and women. However, some differences are identified in specific skills, such as women communicating more successfully and men making more effective decisions.

Students from different universities show differences in soft skills development. UCSP and UTP students have higher levels of development compared to UNSA students. In particular, UCSP excels in leadership, decision-making and communication skills, while UTP excels in creativity and problem solving.

The study highlights the importance of students acquiring soft skills, as they are crucial to their success in the job market. Companies are looking for candidates with strong technical and interpersonal skills. The importance of incorporating teaching processes and techniques that help students develop these skills during their university education is mentioned.

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Collaboration or dialogue between industry and academia is noted as critical to closing the gap between the skills that companies need and those that graduates possess. Practices such as internships, company visits and the importance of professors strengthening their own interpersonal skills to provide quality education are mentioned.

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