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ORIGINAL ARTICLE

Developing soft skills in undergraduate students: A case at a Chilean private university

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Abstract

The role of non-cognitive skills in twenty-first century's professionals is a critical success factor in current workforce. Undoubtedly, infusing these interpersonal attributes into the curriculum is a huge challenge for Chilean Higher Education Institutions (HEI). In fact, some HEIs are currently integrating these generic skills through direct instruction, while others from a cross-curricular approach, but without having considered proper teacher training. More importantly, developing soft skills in new generations has the potential to have profound and transformative effects on the professional field. This article provides an overview of the current state of the art in soft-skills-based education. For this purpose, a group of 55 undergraduate students of a Chilean private university were surveyed. Findings indicate that these students are not acquiring soft skills, at a competitive level, that would help them to advance in their future career.
Keywords: Generic skills; active learning approaches; higher education; curriculum.

Introduction

Traditionally, faculty members focus on teaching academic and professional knowledge rather than soft skills[1], such as, effective communication, teamwork, problem solving, critical thinking and creativity. In fact, students learn how to become an engineer, a nurse, a physician, an accountant or a dentist, but they do not learn soft skills. Without these 21st century skills, every university graduate will face many relationship issues in their future professional live. It is important to note that it is not just content knowledge and soft skills that matter for success, but the metacognitive strategies and

[1] Soft skills and non-cognitive skills are used indistinctively in this article.

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personalities students bring to learning also affect their academic performance and life prospects. Intuitively this makes sense because the topic is not new.

In fact, studies in the United States have found that non-cognitive skills like responsibility, perseverance, the ability to get along with others, self-control, and motivation are highly correlated with future educational levels of attainment, as well as success in broader life – including numerous labor market outcomes and social behaviors (Brunello & Schlotter, 2011; Heckman et al., 2006; Deming, 2017). Non-cognitive traits and behaviors, however, might be as important as -or even more important than-cognitive skills in determining academic and employment outcomes (Heckman et al., 2006).

There is strong evidence that soft skills, also referred to as generic competences (Unideusto, 2008), non-cognitive skills (Heckman & Kautz, 2013) and life skills (UNESCO, 2015), are increasingly important indicators of success both at school and in adult life. Other common terms are key skills, core skills, key competencies, people skills or employability skills. For example, Deming (2017) found that employment growth was particularly strong in occupations that require high levels of both math-related and social skills. The bottom line is that faculty members are held accountable for the cognitive skill levels and growth of their students as measured by standardized tests. But, who accounts for non-cognitive skills? What are soft skills? Soft skills are defined as those personality traits that could improve labor performance, facilitate in-house mobility, catapult a professional career and predict employee performance (Vera, 2016).

Whatever the term you chose, they are desirable qualities that apply across a variety of jobs and life situations, including traits, such as, integrity, communication, courtesy, responsibility, professionalism, flexibility, and teamwork. Conversely, hard skills comprise teachable abilities acquired through means of self-study, work experience, education or training that are critically important to success in today's world (Alshare & Sewailem, 2018). These skills are industry-specific and vary from job to job. Thus, these specific skills are essential to performing the technical of functional specifications of a particular job or profession.

By contrast, non-cognitive skills comprise a mind-set, underpinned by essential human qualities such as intuition, creativity, passion, responsibility, kindness, courage and self-awareness (Tsey et al., 2018). In other words, they can be broadly classified as a combination of personality traits, behaviors, and social attitudes that allow people to communicate effectively, collaborate, and successfully manage conflict (Snyder, 2020). People with good soft skills tend to have strong situational awareness and emotional intelligence that allows them to navigate difficult working environments while still producing positive results.

Unlike hard skills, soft skills are completely different, in that they relate to intangible qualities and are often an inherent part of your personality. With soft skills, we are talking about character traits and qualities, such as: attitude, work ethic, ability to communicate, collaboration and teamwork skills, problem-solving abilities, empathy or compassion (Dea, 2017). Many of these qualities can be seen

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in people who have high levels of emotional intelligence –the ability to monitor our own and others' feelings and emotions and to use this information to guide our thinking and actions. Emotional intelligence (EQ) is a very important factor in maintaining successful relationships, both personal and professional.

Many 21st century skills development proposals are observed worldwide. For example, International Baccalaureate Organization (IBO) -an international educational foundation headquartered in Geneva, Switzerland, and founded in 1968-, fosters the following set of distinctive attributes in International Baccalaureate (IB) students Baccalaureate (IB) to invigorate campus life IBO, 2010):

- **Inquirers.** IB students develop natural curiosity skills necessary to conduct inquiry and research and show independence in learning.
- **Knowledgeable.** IB students explore concepts, ideas and issues that have local and global significance. In so doing, they acquire in-depth knowledge and develop understanding across a broad and balanced range of disciplines.
- **Thinkers.** IB students exercise initiative in applying thinking skills critically and creatively to recognize and approach complex problems and make reasoned, ethical decisions.
- **Communicators.** IB students understand and express ideas and information confidently and creatively in more than one language and in a variety of modes of communication. They work effectively and willingly in collaboration with others.
- **Principled.** IB students act with integrity and honesty, with a strong sense of fairness, justice and respect for the dignity of the individual, groups and communities. They take responsibility for their own actions and the consequences that accompany them.
- **Open-minded.** IB students understand and appreciate their own cultures and personal histories and are open to the perspectives, values and traditions of other individuals and communities.
- **Caring.** IB students show empathy, compassion and respect towards the needs and feelings of others. They have a personal commitment to service and act to make a positive difference to the lives of others and to the environment.
- **Risk-takers**. IB students approach unfamiliar situations and uncertainty with courage and forethought, and have the independence of spirit to explore new roles, ideas and strategies. They are brave and articulate in defending their beliefs.
- **Balanced.** IB students understand the importance of intellectual, physical and emotional balance to achieve personal well-being for themselves and others.
- **Reflective.** IB students give thoughtful consideration to their own learning and experience. They are able to assess and understand their strengths and limitations in order to support their learning and personal development.

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The International Baccalaureate® (IB) program is one of the world's most innovative educational courses for 16-19 year olds. It focuses on personal, professional and academic development and is globally recognized by universities for the holistic and rigorous education it provides. The aim of all IB programs is to develop internationally minded people who recognize their common humanity and shared guardianship of the planet and help to create a better and more peaceful world.

From a labor standpoint, the Job Outlook 2019 survey conducted by the National Association of Colleges and Employees (NACE, 2019) -an American Center for Career Development and Talent Acquisition- found that employers give their highest scores to the following most sought-after attributes, when recruiting new staff:

- Written communication skills (82%);
- Problem-solving skills (80.9%);
- Ability to work in a team (78.7%).

Interestingly, technical or hard skills (59.6%) often considered among the most important skills an applicant can possess in today's high-tech job market, ranked quite low by comparison. As it is shown in Table 1, the results of the Job Outlook 2019 survey make it clear that employers are paying much closer attention to soft skills in the workplace than they did in years past. These types of skills have become increasingly necessary for workers at the workplace, where many processes are automated and executed by machines. Therefore, employees must exploit their soft skills to the fullest and make their work essential in the company to ensure their future.

Table 1: Attributes employers seek on a candidate's resume

Attribute	% of respondents
Communication skills (written)	82.0%
Problem-solving skills	80.9%
Ability to work in a team	78.7%
Initiative	74.2%
Analytical/quantitative skills	71.9%
Strong work ethic	70.8%
Communication skills (verbal)	67.4%
Leadership	67.4%
Detail-oriented	59.6%
Technical skills	59.6%
Flexibility/adaptability	58.4%
Computer skills	55.1%
Interpersonal skills (relates well to others)	52.8%
Organizational ability	43.8%

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Strategic planning skills	38.2%
Tactfulness	25.8%
Creativity	23.6%
Friendly/outgoing personality	22.5%
Entrepreneurial skills/risk-taker	16.9%
Fluency in a foreign language	11.2%

Source: Job Outlook 2019 survey (NACE, 2019).

Non-cognitive skills development curriculum

With regard to developing non-cognitive skills in the HEI classrooms, Vera (2016) proposes a holistic approach that integrates them both directly and indirectly. From this teaching strategy, students could acquire said skills explicitly (formal curriculum) and implicitly (hidden curriculum), with emphasis on active-learning classroom activities. Conceptually, this holistic view implies:

- Focusing instruction on students' learning styles and needs;
- Defining a set of non-cognitive skills, responding to the workforce sector;
- Preparing the necessary learning and teaching resources needed for direct curriculum; and
- Defining the methodology and assessment strategies to develop and assess non-cognitive skills both directly and indirectly.

The above mentioned-approach involves engaging students in meaningful learning activities that transform them into self-reliant and independent learners. However, teachers must have developed these skills in their personal lives in order to infuse them in their students. Otherwise, their classes would only be a delivery of theoretical content, without a deep attitudinal change in others. Among the activities that should be embodied inside classrooms to develop active learning are the following:

- **Problem-based learning,** where students are given a problem that encourages them to cooperate with each other, formulate questions, analyze evidence, think critically, connect current situation to personal experience, draw conclusions, take corrective actions on their own and reflect on their learning.
- **Experiential learning**, where students learn by engaging in authentic learning activities, that is, ones that replicate situations or problems they might encounter in real life or in a work situation.
- **Role-playing**, where students can have fun while, at the same time, build social skills and learn about social rules.

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- **Simulated situations,** where students learn to assume their own mistakes and shortcomings to improve their future performance.

As it can be noted, non-cognitive skills represent valuable assets with respect to both traditional learning outcomes and the broader development of individuals. But, are teachers prepared to cope with this huge challenge? Despite the important efforts made to reform higher education curriculum, all appears to indicate that there is still a long walk towards a paradigm shift in classroom teaching strategies. Moreover, some of undergraduate students' performance mistakes are due students' low critical thinking ability and lack of metacognitive skills (Vera, 2020. The evidence clearly suggests changing the models that are so common in college and university classrooms - primarily "teacher talk." Teachers dominate classroom talk speaking anywhere between 60% to 75% of the time (Davies, 2011).

Moreover, strategies for infusing soft skills should include active methodologies and extracurricular activities and in all courses that make up an undergraduate training program. The purpose is to promote developing soft skills in both formal, Informal and non-formal learning contexts. To invigorate higher education classrooms, faculty members should set aside their teacher-centered approach and allow their students to become more independent learners. In their classrooms, teachers and students together should create learning communities on shared goals, shared resources and shared patters and norms for participating as legitimate members of the communities. In their interactions with each other, both teachers and students assume particular identities and roles, which allows them to develop understandings of what constitutes not only the substance of what is to be learned, but also the very process of learning itself.

One strand of non-cognitive skills development is concerned with promoting experiential learning. Most educators often struggle developing soft skills in their students because these skills are hard to measure and develop. Experiential learning, or learning through experience, can help you create an engaging classroom experience in which students can practice and develop these critical career skills. As a member of the Association of Experiential Education (AEE), based in Florida, USA, I have learned that in order to succeed in life, individuals need to:

- Develop strong social, emotional, and high-level cognitive and non-cognitive skills and capabilities, as these are difficult to automate and can transfer between occupation categories;
- Become innovators and problem solvers by leveraging their curiosity and permitting themselves to fail while iterating on new solutions to old problems and;
- Be able to effectively communicate and collaborate with a diverse set of people and technologies.

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In this context, what do experiential learning classrooms look like? Who are the participants? What roles do they play? At a rapid glance, the first impression is that many things happen inside these interactive classrooms. Mainly, we see students interacting with each other, regardless of the knowledge they may possess of the subject matter. They interact with each other because they are encouraged to do so. In order to complete the students' learning, it is not enough just to work together in the form of specific groups in the designed situation. They need to cooperate with each other in real-life learning situations (Herwina et al., 2019). And most importantly, they need to learn how to share knowledge and experience in order to promote a deeper level of cooperative learning.

Materials and methods

This study employed a descriptive research design through a soft skill assessment test to identify students' performance and a soft skill questionnaire to identify students' blind spots. Fifty-five undergraduate nursing students of a Chilean private university registered in the "Generic skills course", participated in this study. Of this group, 42 (76.4%) were predominantly females (aging from 19-33 years) and 13 (23.6%) were males (aging from 19-30 years). Findings indicate that there is a gap in non-cognitive skills in these nursing students. This article is based on the author's teaching experience. The researcher was the Academic Director of the Generic Skills Development Program at this university. This study was designed to give answers to the following research questions:

- What is the level of performance in soft skill situations among undergraduate students?
- Which soft skill obtains the highest scoring on an assessment test?
- Which soft skills are most valued by undergraduate students?

Results

The participants were in the 19-33 age group and the average age was 25.05 years (SD= 4,95). Female students accounted for 72.7% of the total group. The non-cognitive skills were measured through two online self-administered instruments: a multiple-choice performance test, with 16 non-cognitive-related situations and a Likert-type scale questionnaire with 20 questions covering the following core non-cognitive skills categories: Effective communication, leadership, teamwork and problem solving. The first part of this questionnaire collected demographic data of nursing students (gender and age).

On average, test results show that effective communication skills have the highest grade (5.54) in the Chilean 1.0 – 7.0 grading scale, whereas the lowest grade was in problem-solving skills (3,70), as shown in Table 2.

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Table 2: Soft skills performance test results

Type of soft skill	Grade	N	%
Effective communication	5.5	38	69.1
Leadership	5.3	47	85.5
Teamwork	4.8	27	49.1
Problem solving	3.7	12	21.8

Source: Own elaboration.

It is important to note that this group of students attains a passing grade of 4.8 (sufficient), according to the Chilean 1.0 – 7.0 grading scale, with a passing grade of 4,0. Regarding the soft skill questionnaire, respondents have consistently answered "strongly agree" or "disagree" to all the questions. Because of the small number of respondents our main findings rested with two frames of analysis: the difference between those that had the highest and the lowest scoring. There were two key findings: the effective communication category appeared to be the most valuable soft skill across all the questions, whereas the problem-solving category had the lowest scoring across all the questions.

Overall, 36 out of 55 (65,4%) of the responses to all effective communication-related questions were strongly agree (questions 1, 2, 4, 5, 13). A total of 12 out 55 (12,8%) of the responses to all the solving-problem related questions were disagree (questions 6, 10, 11, 15, 17, 3). The statement that received the highest score was 'People understand my questions, instructions and ideas the first time I offer them', with a total of 21/36 respondents agreeing or strongly agreeing. Two other statements share the next highest score 'I am able to understand and consider diverse points of view before reaching a conclusion', with a total of 15/36 agreeing or strongly agreeing. The statements that seemed to be the lowest soft skills were in the problem-solving category. The following statements: 'Before offering a solution, I evaluate the situation and pinpoint the root cause of the problem' (9/12 disagree or strongly disagree) and 'I understand the context and rationale for tasks I do, seeking clarity when I don' see the purpose' (3/12 disagree of strongly disagree).

In addition, participating students were asked what soft skills they most frequently apply in their daily life. The purpose was to investigate if they have a clear understanding of the importance of soft skills. Based on the review of the Soft Skill Development Program, at this university, the 20 questions of the soft skill questionnaire were organized under this university's four core soft skills being promoted by this university (effective communication, leadership, teamwork and problem solving). Out of the 55 respondents, 36 students (65%) chose all the soft skills, which reflects their moderate understanding of soft skills. The top two soft skills, as identified by the students, were effective communication and leadership, as shown in Table 3.

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Table 3: Soft skills ranking according to undergraduate students

Ranking	Type of soft skills	Frequency (n = 55)
1	Effective communication	45
2	Leadership	41
3	Teamwork	32
4	Problem solving	25

Source: Own elaboration.

Undergraduate students' soft skill ranking suggests that they moderately value integration of soft skills into the curriculum. However, their level of performance in soft skill-related situations does not match their slightly positive perception of soft skills. As an overview, students were also asked to rate the importance of soft skills for different purposes, using a 1 - 7 point scale. As shown in Table 4, effective communication and leadership were considered the most important soft skills for undergraduate students (mean score 5.90 and 5.47, respectively). However, these students felt that all the soft skills taught in the Soft Skills Development Program were slightly important for their professional performance (mean score 5.30).

Table 4: Soft skills valued by undergraduate students

Soft skills	Mean 1 – 7	ST
Effective communication	5.90	0.64
Leadership	5.47	0.71
Teamwork	5.14	0.85
Problem solving	4,67	1.02

Source: Own elaboration.

Conclusion

The low grade of 4.8 (sufficient) attained by this group of students in the soft skill performance test shows that teaching and learning strategies have not been effective. This finding has practical implications for instructors wishing to infuse soft skills in their practice. As it has been shared, there is a variety of active learning strategies either to teach these abilities directly or indirectly. However, effective use of said strategies requires some degree of intentional course planning.

Regarding the most developed soft skill in these students, it was found that effective communication scored the highest on the performance test (5.5). This is a good beginning as communication skills are considered to be the most imperative skills a professional must have. This finding has also shown that students are aware of the importance of this skill. It is also concluded that these students associate the development of soft skills with a set of training courses and not necessarily with

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life skills that should be infused throughout the undergraduate curriculum. Otherwise, performance test results should have been higher.

Finally, the soft skills that are mostly valued by these students are effective communication and leadership. However, they think that the set of soft skills included in their education are slightly important for their future profession. The reason for this perception could be the time students must devote to courses not directly related to the nurse's core training.

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