

Article

Soft Skills Training Program Based on Serious Games

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Abstract: In the 21st century, to be successful at the workplace and to get their first job, potential employees must have both “soft skills” (“know how to be”) and “hard skills” (“know how to do”). The proposed Soft Skills Training Program (SSTP) combines multiple serious games to train future employees in four key soft skills that are most demanded by companies: intrapersonal, interpersonal, personal social responsibility, and organizational sustainability. These four *MacroSoftSkills* are subdivided into eight *MesoSoftSkills* and 21 *MicroSoftSkills* to establish a complete multilevel structure. The development of soft skills is measured before and after the training using five appraisal questionnaires and tests. The pilot project, aimed at young university and vocational training students, lasted 9 weeks and proved to be effective since the proposed aggregate indicators of soft skills development increased in value, with the results being different across soft skill, gender, and educational center. The contents and length of some of the training sessions should, however, be adjusted to further develop and improve the program.

Keywords: soft skills; serious games; gamestorming; sustainability; training; appraisal



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1. Introduction

At the end of the 20th century, scientific and technological discoveries opened the door to a society characterized by globalization, high mobility of people and goods, digitalization, and evolving technical interconnectivity. At the same time, there was worldwide concern about environmental problems caused by an increase in the population and its compulsive consumption behaviors. In view of these developments, the United Nations Sustainable Development Goals (SDGs) highlight the need to promote a more sustainable society and economy [1].

In the business world, these changes led companies to rethink the same basic assumptions on which they were founded, since this new scenario requires organizations to meet all the objectives they had in the past, while facing the new challenges of this new VUCA (volatile, uncertain, changing, and ambiguous) context [2]. In the attempt by companies to respond to these changes, there has been the development of new professions and the disappearance of other jobs that are economically unstable [3]. In this context, the labor market situation is complex. Employers focus recruitment on those candidates with varied backgrounds and skills, thus generating a competitive advantage [4–8]. Both human capital and its quality affect firm performance. Therefore, today, employees are key players in organizations. In addition to their ability to perform a given activity, it is important that they possess transversal skills, more specifically, so-called “soft skills” [9].

As opposed to hard skills (“know how to do”), which include knowledge or specific technical skills in each field [10], soft skills (“know how to be”) are those skills transversal to any job [11–13] while complementing the technical ones [14]. Indeed, these soft skills equip employees with the ability to interact effectively with their colleagues, communicate with their superiors and peers, work in teams, and adequately manage work conflicts [15]. They are the ones that can most accurately explain the reluctance of employees as they take on positions of greater responsibility in the company structure [16]. In summary, they apply to all industries, company sizes, and employment levels.

Moreover, a body of research [17,18] has found that soft skills account for 85% of success; hence, developing and improving them promotes employability, in addition to obtaining higher salaries. If hard skills were the main human engine for success in the business environment during the late 20th century [19], in this new changing business context [20], especially characterized by increasingly competitive systems [21] and with high levels of complexity [9], focusing on soft skills leads to sustainable business success [22].

However, there is an important gap between the skills demanded by companies and the level of skills acquired by recent graduates [23]. Therefore, since soft skills are transferable and teachable [24], it is important to carry out a holistic education that includes training in both hard skills and soft skills in order to respond to these changes [25]. The connection between both types of skills points out the difference between a job well done and the competence to obtain better results [26,27].

We focus on the training of these soft skills, and we do so by designing a training program based on serious games, as they are an effective alternative [28,29] to motivate and stimulate learning in different settings [30,31]. Serious games allow for discussion and knowledge sharing [29], fostering behavioral changes within the work environment [32]. Moreover, in the business world, the objectives of organizations are diffuse; thus, the use of games favors problem-solving skills in uncertain environments. It also allows for inspecting new possibilities and ideas for innovation [33,34]. The most suitable type of game for training soft skills is gamestorming [35], with three stages: opening, exploration, and closing. In the opening stage, divergent thinking is enhanced; in the exploration stage, infinite paths are opened; in the closing stage, the enhancement of convergent thinking predominates [36].

We also focus on measuring the effectiveness of the proposed training program by quantifying the degree of improvement in soft skills. We use five appraisal tests that measure soft skills both before and after the training sessions, providing an indicator that might be used to characterize individuals and compare across them, using gender or level of education as control variables.

The objective of the current research is, therefore, to design a novel soft skill training program (SSTP) based on serious games, by combining the state of the art in three axes: soft skills as the theoretical ground [37], appraisal tests as the quantitative measure of improvement, and serious games as the training tool. The main contribution is, therefore, a unique, comprehensive, measurable training program to improve the competencies in soft skills based on serious games. With this idea in mind, and with the difficulty of designing such a complex measurable program based on multiple serious games, we resort to the so-called Deming cycle for continuous process improvement [38]. Even if this cycle was first thought of for measuring the continuous improvement of industrial processes, its applications are spread across different scientific disciplines (for example, [39,40]), even in designing training programs [41]. We use it for the first time, to our knowledge, to design a training program on soft skills.

Figure 1 summarizes the proposed process for designing the multigame SSTP using the Deming cycle. The cycle starts by theoretically stating a plan, in this case, the training program, including the precise definition of the goals and objectives, as well as the tools and indicators to quantitatively measure them. Then, a pilot study is carried out to not only validate the plan but also quantitatively assess its performance. Checking the usefulness and effectiveness of the plan is next, prior to specifying further improvements and acting on the plan, thereby redefining it.



Figure 1. The design of SSTP based on the Deming cycle for improvement.

In the case of the current research, after acknowledging the need to educate on soft skills for sustainable education (United Nations Sustainable Development Goal 4, SDG4) and for decent work and better employment opportunities (SDG8), we designed a full plan, put it to work, checked its effectiveness, and proposed several variations to the original plan to close the first loop of the Deming cycle. Out of the available definitions and classifications of soft skills, out of the available appraisal tests, and out of the available serious games, we selected a combination that has proven effective and successful while training both vocational and university students.

What follows is a description of this successful combination of theory and methods, understanding that, for subsequent design cycles, improvements are necessary for the current combination and/or additions/removals of soft skills, appraisal tests, and serious games. The article is organized to describe the stages that were carried out to finish the first Deming cycle while designing the SSTP. Section 2 includes the training program as it was designed (PLAN) and Section 3 includes the pilot study as it was carried out (DO), while Section 4 summarizes the results after quantifying the effectiveness of the program (CHECK), before Section 5 describes the possible variations to the proposed plan (ACT).

2. SSTP: The Soft Skills Training Program Based on Serious Games

The training program and its evaluation, therefore, represent a feasible combination of multiple soft skills, appraisal tests, and serious games. Figure 2 shows an overview of the training program as it was designed (PLAN stage of the Deming cycle), which includes the selected soft skills that are addressed, the appraisal tests that are used to quantify each person's specific competencies on soft skills, the serious games that are utilized to train the soft skills, and the sessions in which the training program is divided into, allowing the training program to be understood as a whole.

MACRO SOFT SKILL	MESO SOFT SKILL	MICRO SOFT SKILL	APPRAISAL TESTS	SESSIONS AND GAMES
SS1. Intrapersonal	1.1. Self-knowledge	1.1.1. Academic self-concept	Five-Factor Self-Concept Questionnaire (AF5)	SESSION 1: "Paradoxical Thinking" – GAMES: "Hero and Villain", "Through their eyes", "Paradoxical lists", "Relative paradox"
		1.1.2. Emotional self-concept		
		1.1.3. Social self-concept		
		1.1.4. Family self-concept		
		1.1.5. Physical self-concept		
	1.2. Self-management	1.2.1. Volatility	Big Five Questionnaire (BFQ)	SESSION 2: "Emotions" – GAMES "Eye dance", "Conscious breathing", "Body scanner"; SESSION 3: "Growing In Mindfulness"
1.2.2. Withdrawal				
SS2. Interpersonal	2.1. Empathy	2.1.1. Adopting perspectives	Test of Cognitive and Affective Empathy (TCAE)	SESSION 3: "Growing In Mindfulness"
	2.2. Influence	2.1.2. Understanding emotions		
		2.2.1. Assertiveness	Big Five Questionnaire (BFQ)	SESSION 4: "Trust" – GAMES: "Body Leadership", "Body Rapport", "Game of trust"
SS3. Personal Social Responsibility	3.1. Strategic mindset	3.1.1. Openness	Big Five Questionnaire (BFQ)	SESSION 5: "Ikigai"; SESSION 6: "Planning by scenarios"
	3.2. Conscientiousness	3.2.1. Industriousness		
		3.2.2. Orderliness		
SS4. Organizational Sustainability	4.1. Compassion	4.1.1. Kindness	Compassion Scale (CS)	SESSION 7: "Compassion & Morality"; GAMES: "Marlene's Story"
		4.1.2. Common humanity		
		4.1.3. Engagement		
		4.1.4. Indifference		
		4.1.5. Separation		
		4.1.6. Disengagement		
	4.2. Morality	4.2.1. Idealism	Ethics Position Scale (EPQ)	
		4.2.2. Relativism		
SOFT SKILL TRAINING PROGRAM				

Figure 2. Overview of the proposed SSTP training program.

The theoretical background of the different pillars of the proposed program that fosters the training program follow, not forgetting that the aim is that all three vertices of the training program—soft skills, appraisal tests and indicators, and games—are jointly incorporated into SSTP.

2.1. Soft Skills

Soft skills are transversal skills that underlie any job [11], in contrast to hard skills, which are those that are technical knowledge specific to each field [10]. Therefore, in a business environment characterized by being VUCA (volatile, uncertain, complex, and ambiguous) [2], it takes special importance for job candidates to have their soft skills highly developed, as these provide them with a solid base of transversal resources that allow them to adapt to the demands of a changing labor market [20].

There is a wide variety of soft skills listed by academics and business professionals. The first full review was called "integral taxonomy" [42], based on the action, personal, social, and methodological dimensions. The four resulting soft skills are the following:

- Politics": "personal (self-awareness, leadership), social (conflict management, customer/user orientation), and methodological (adaptability to change).
- Strategy": "personal (entrepreneurship, tolerance to stress), social (contact network, culture adaptability), and methodological (results orientation, continuous improvement).
- Organization": "social (communication, negotiation, teamwork) and methodological (planning, analysis skills, management skills, research and information management skills).
- Ethics": "personal (commitment, learning skills, life balance), social (people development), and methodological (decision making, creativity and innovation).

In 2019, a second review of the different classifications and groupings of soft skills was published [43], with its corresponding references to the main available studies.

Key competencies for a successful life and a well-functioning society [44,45]. In 2003, an OECD publication established the essential competencies for individual and collective growth in the modern community. It boosted the development of employees to improve performances and to evaluate the usefulness of educational systems; the Program for International Student Assessment (PISA) was then created. They established the following categories:

- “Interacting in socially heterogeneous groups: “the ability to relate well with others, to cooperate, and to manage and resolve conflicts, especially in pluralistic and multicultural societies”.
- “Acting autonomously: “the key competencies that enable individuals to manage their lives in a meaningful and responsible way, exercising control over their living and working conditions”.
- “Interactive use of tools: in response to the various social changes in modern society, mastery of sociocultural tools “such as language, information, and knowledge, as well as physical tools such as computers” is required.

Generic competencies [46]. In 2000, the Tuning Educational Structures in Europe project was initiated to merge the Bologna Process with the Lisbon Strategy within the European Higher Education area, to develop expert profiles to favor employability through the transparency of educational companies. They established the following competences:

- “Instrumental: “cognitive, methodological, technological, and linguistic skills”.
- “Interpersonal: “individual skills such as social skills (social interaction and cooperation)”.
- “Systemic: “capabilities and skills related to whole systems”.

Competence framework for the 21st century [47]. Based on OECD, three areas were proposed:

- Information: “information as a source and information as a product”.
- Communication: “effective communication and collaboration and virtual interaction”.
- Ethics: “responsibility and social impact”.

Soft skills for talent based on a study by Group Manpower (2014) [48]. They proposed the following catalog of the various soft skills demanded by employers:

- Curiosity and problem solving,
- Ambition,
- Creativity and open-mindedness,
- Adaptability to change,
- Results orientation.

Lastly, 24 soft skills were listed in a third study [49] after analyzing in depth two previous studies [44,50] and defining three axes: instrumental, personal, and systemic.

- Instrumental” includes (1) capacity of analysis and synthesis, (2) capacity of organization and planning, (3) oral and written communication in the native language, (4) knowledge of a foreign language, (5) computer knowledge related to the field of study, (6) capacity of information management, (7) problem solving, and (8) decision making.
- Personal” comprises (9) teamwork, (10) interdisciplinary teamwork, (11) work in an international context, (12) intrapersonal skills, (13) interpersonal skills, (14) acknowledgement of multicultural diversity (15) critical thinking, and (16) ethical commitment.
- Systemic” covers (17) autonomous learning, (18) adaptation to new situations, (19) creativity, (20) leadership, (21) knowledge of other cultures and customs, (22) entrepreneurial effort and spirit, (23) motivation for quality, and (24) environmental sensitivity.

In summary, two categories of soft skills underly all the studies: (1) intrapersonal soft skills, aimed at oneself, and (2) interpersonal soft skills, in relation to others [37]. Currently, these skills are general throughout the university and professional environments, as well as an ethical and sustainable character [49]. In this study, as a major contribution, in addition to the two traditional categories of soft skills mentioned above, intra- and interpersonal skills, two new full categories of soft skills are proposed due to their importance in the current trends of employability.

One proposal is (3) “personal Social Responsibility”, since, in the face of the changing demands and expectations of society in the business environment, corporate business social responsibility strategies cannot be effective without aligning career progress with responsible individual behaviors, premises and values [51]. In this regard, the impor-

tance of individuals in the responsibility toward society has been also highlighted (2007 Core Commitments initiative of the Association of American Colleges and Universities (AAC&U) [52], Adecco Foundation (2015) in Spain [53]). Therefore, this category of soft skills is proposed to encourage the development of a responsible working career [15].

The other proposal of a new category is (4) “organizational sustainability”, since the sustainability of companies depends mainly on the wellbeing of employees [54], enhancing the sustainability of the organization and providing sustainable employment [55], thereby addressing SDG8.

For the proposed Soft Skills Training Program, SSTP, the structure of soft skills starts with the mentioned four categories of soft skills, which we refer to as *MacroSoftSkills*. We further divide them into eight *MesoSoftSkills* and these into 21 *MicroSoftSkills*. All these can be trained with serious games, and their development can be quantified with appraisal tests.

The first *MacroSoftSkill*, “SS1. Intrapersonal”, is defined as of the ability to know oneself and to optimally manage one’s emotions [56] and is divided into the *MesoSoftSkills* referred to as “1.1. Self-knowledge” and “1.2. Self-management”. “1.1. Self-knowledge” consists of knowing one’s resources, intuitions, preferences, and internal states [56]. It is composed of the following five *MicroSoftSkills*, which coincide and are, therefore, likely to be measured, with the factors of the Five-Factor Self-Concept Questionnaire (AF5):

- “1.1.1. Academic self-concept”: individual’s perception of the quality of their role performance, both as a student and as a worker.
- “1.1.2. Emotional self-concept”: A person’s perception of their emotional state and responses to specific situations, with a certain degree of commitment and involvement in their daily life.
- “1.1.3. Social self-concept”: Own perception of their performance in social relationships.
- “1.1.4. Family self-concept”: Own perception of involvement, participation, and involvement in the family environment.
- “1.1.5. Physical self-concept”: Own perception of their physical appearance and physical condition.

“1.2. Self-management” includes components such as self-motivation [57] or emotional stability [58]. The corresponding *MicroSoftSkills* presented below are to be measured with the Big Five Questionnaire (BFQ).

- “1.2.1. Volatility”: control of the states of stress associated with the emotional experience.
- “1.2.2. Withdrawal”: maintaining control of one’s own behavior even in situations of discomfort, conflict, and danger.

The second *MacroSoftSkill*, “SS2. Interpersonal”, focuses on the ability to understand and effectively manage others’ emotions [59], and it is divided into two *MesoSoftSkills*, namely, “2.1. Empathy” and “2.2. Influence”. Both *MesoSoftSkills* are essential for teamwork [9,60]. “2.1. Empathy” lies in the ability to be aware of and understand the emotions, feelings, and ideas of others [61]. Two *MacroSoftSkills* are measured using the Test of Cognitive and Affective Empathy (TCAE):

- “2.1.1 Adopting perspectives”: intellectual and imaginative ability to put oneself in the place of another person.
- “2.1.2 Understanding emotions”: ability to recognize and understand the emotional states, intentions, and impressions of others.
- “2.2. Influence” encompasses leadership [62] or communication skills [25]. The corresponding *MicroSoftSkill* presented below is to be measured with the corresponding Big Five Questionnaire (BFQ) factor.
- “2.2.1 Assertiveness”: ability to assert oneself, stand out, and assert one’s influence over others.

The third *MacroSoftSkill*, “SS3. Personal Social Responsibility”, consists of the ability to inhibit undesirable behaviors for the achievement of goals and to enhance desirable ones to achieve them, with diligence, perseverance, and order [58]. This *MacroSoftSkill* is

divided into “3.1. Strategic mindset” and “3.2. Conscientiousness”. While conscientiousness encompasses professionalism [19] or reliability [58], strategic mindset encompasses adaptability [63] or planning [60]. The *MicroSoftSkills* presented below match once again Big Five Questionnaire (BFQ) factors.

- “3.1.1 Openness”: the ability to consider everything from different perspectives and openness to different values, styles, lifestyles, and cultures, i.e., from open-mindedness to novelty.
- “3.2.1 Industriousness”: reliability, meticulousness, and love for order.
- “3.2.2 Orderliness”: the persistence and tenacity with which tasks and activities undertaken are carried out, and not failing to deliver on promises.

Lastly, the fourth *MacroSoftSkill*, “SS4. Organizational Sustainability”, resides in showing a personal connection with the content, work processes, and stakeholders involved in it, transcending the limits of self-interest and seeking the common interest [64]. It is divided into two *MesoSoftSkills*, called “4.1. Compassion” and “4.2. Morality”. “4.1. Compassion” is supported by the concern for the needs of others and the desire to satisfy them [65] or even honesty [66]. The corresponding *MicroSoftSkills* presented below match with the components of the Compassion Scale (CS) appraisal test.

- “4.1.1 Kindness”: attitude of caring for those who are suffering, and a desire to support those in need.
- “4.1.2 Common humanity”: ability to recognize that all people suffer and a sense of connection with those who suffer.
- “4.1.3 Engagement”: ability to maintain a balance between perceiving, but not being drawn into, the suffering of others, as well as listening and paying attention to others when they suffer.
- “4.1.4 Indifference”: attitude of ignoring those who are suffering, and the absence of desire to support those who need it.
- “4.1.5 Separation”: tendency to ignore the difficulties felt by other people, exalting one’s own in comparison.
- “4.1.6 Disengagement”: inability to perceive the suffering of others.

“4.2. Morality” encompasses ethical behavior [64,67] and it is to be measured with the following Ethics Position Scale (EPQ) dimensions:

- “4.2.1 Idealism”: tendency to consider that the ethics of an action depends directly on the harm that this action may cause to any living being.
- “4.2.2 Relativism”: tendency to consider that ethical factors have a variable importance depending on the situation or culture in which they occur.

2.2. Appraisal Tests and Indicators

To measure the degree of development on the competencies on soft skills, during the evaluation sessions, one before the training sessions and another after them, five self-report questionnaires were used to measure the different soft skills addressed in the previous subsection due to their one-to-one matching:

- Big Five Questionnaire (BFQ) [58]: this questionnaire includes a personality test that measures five major factors: extraversion, agreeableness, conscientiousness, neuroticism, and openness/intellect. Each of the five factors also has two subfactors that allow us to measure the *MicroSoftSkills* with greater precision.
- Five-Factor Self-Concept Questionnaire (AF-5) [68,69]: this test measures the self-concept of the participants in five different dimensions: social, academic/professional, emotional, family, and physical.
- The Test of Cognitive and Emotional Empathy (TCAE) [70,71]: this test measures the degree of empathy of a subject, in its cognitive and emotional components. In addition, it gives an overall score of the individual’s empathy and allows us to make predictions about their behavior in an emotional situation.

- Ethics Position Scale (EPQ) [72,73]: this questionnaire measures individual differences in moral thinking, with two axes: the idealism/pragmatism axis, and the relativism/universalism axis.
- The Compassion Scale (CS) [74,75]: this questionnaire measures an individual's degree of compassion. The test has six measures, three positive and three negatives. The positive ones are kindness, common humanity, and engagement, and the negative ones are indifference, separation, and disengagement.

The results of the multiple tests must be jointly quantified to understand the development on soft skills at the individual level and by gender or educational center. Moreover, the analysis should be carried out at the three levels of the structure of soft skills: macro, meso, and micro. We proceed as described below to quantify the soft skills and compare among individuals.

After obtaining the results for the 21 *MicroSoftSkills* indicators while using the five questionnaires or appraisal tests, the results are normalized in the 0–1 range, and arithmetic averages are calculated to obtain the eight aggregated *MesoSoftSkills* indicators. For example, the average of the five *MicroSoftSkills* indicators (1.1.1., 1.1.2., 1.1.3., 1.1.4. and 1.1.5.) constitutes the indicator “1.1 Self-knowledge”. In the same way, the eight *MesoSoftSkills* indicators are aggregated using the arithmetic mean into the four *MacroSoftSkills* indicators. As such, the *MesoSoftSkills* indicators “1.1. Self-Knowledge” and “1.2. Self-Management” are aggregated into the *MacroSoftSkill* indicator “SS1. Intrapersonal”. Lastly, the 4 *MacroSoftSkills* indicators are aggregated into the composite indicator called “SS—Soft Skills”.

The indicators are calculated both before (PRE) and after training (POST). The “Improvement” is calculated as the gross difference between both indicators (POST-PRE). In addition, the percentage of students who obtained improvement, “%Positive”, is calculated as those students who had an “Improvement” >0 divided by the total number of students evaluated.

The two indicators, “Improvement” and “%Positive”, were calculated for the total sample and by gender or by educational center, as well as by the combination of both variables (gender and center).

2.3. Serious Games

There are many types of games available, although we focused on two, gamestorming and board games, to address the training of the soft skills and their measurement with the tests specified in the previous subsections.

- Gamestorming: this technique [33] is based on a set of games that enhance innovation in the company. Each game is composed of three main stages: opening, exploration, and closing. Opening is characterized by divergent thinking, exploration is characterized by an emergent approach with multiple paths, and closing is characterized by a convergent perspective.
- Board game: this approach has a board game format, in which different participants move around the board performing various activities.

Within these two types, we selected games that addressed the soft skills that were being trained. We list and briefly explain the games included in SSTP. All of them belong to the brainstorming class except for “Growing in Mindfulness”, which is a board game.

- Game 1: Paradoxical Thinking [76]. The first game focuses on the *MacroSoftSkill* “SS1. Intrapersonal” and the *MesoSoftSkills* “1.1. Self- Knowledge”.
 - Open: “Hero and Villain”, in which participants discover through a creative process their different positive and negative personal characteristics in a humorous and simple way.
 - Explore: “Through Their Eyes”, in which participants are able to go deeper into their own characteristics found in “paradoxical lists”, in which the participants searched for the paradox that most defined them.

- Close: “Relative Paradox”, in which participants broaden their perception of their own paradox and deepen their knowledge of their positive and negative personal characteristics, so that they can use them as tools for conscious work performance.
- Game 2: Emotions. The second game trains *MacroSoftSkill* “SS1. Intrapersonal” and the *MesoSoftSkills* of “1.2. Self-Management”.
 - Open: “Eye Dance” [77], in which the participants learn to reach a state of relaxation through the mastery of the tension–distension of the optic nerve.
 - Explore: “Conscious Breathing” [77], in which the participants learn to concentrate their attention only on the physical sensations caused by their own breathing, leaving all thoughts out of their attentional focus, with subsequent relaxation.
 - Close: “Body Scanner” [78], in which participants identify the different sensations throughout their body, with subsequent relaxation.
- Game 3: Growing in Mindfulness. The third game jointly trains *MacroSoftSkill* “SS1. Intrapersonal” and the *MesoSoftSkills* of “1.2. Self-Management”, as well as *MacroSoftSkill* “SS2. Interpersonal” and the *MesoSoftSkills* of “2.1. Empathy”.
 - “Growing in Mindfulness” is a boardgame created by group of psychologists led by M. Delgado-Rios in 2018, with the objective of favoring the practice of mindfulness in an attractive way, facilitating experiences that increase emotional regulation, self-knowledge, and compassion.
- Game 4: Trust. The fourth game trains *MacroSoftSkill* “SS2. Interpersonal” and the *MesoSoftSkills* of “2.2. Influence”.
 - Open: “Body Leadership” [79], with the aim of making participants aware of their body and how their different body positions can generate one impression or another on others, perceiving us as more or less dominant and facilitating or hindering their collaboration.
 - Explore: “Body Rapport” (adapted from [80]), in which participants learn how to use the technique of mirroring their interlocutor to achieve an optimal connection with themselves and facilitate collaboration and trust between both parties.
 - Close: “Game of Trust” (adapted from [81]), in which participants experience firsthand the effect of trusting and being trusted by others.
- Game 5: Ikigai [82]. The fifth game trains *MacroSoftSkill* “SS3. Personal Social Responsibility” and the *MesoSoftSkills* of “3.1. Strategic Mindset”.
 - Open: “I Know My Purpose in Life”, in which participants have to weave together the four concepts related to a full sense of life: what they like, what they can get paid for, what they are good at doing, and what the world needs.
 - Explore: “Share My Purpose”, in which the participants share the answers they were individually given in the open part of the game.
 - Close: “Activate My Life Purpose”, in which the participants make a mind map where they project how they are going to execute their life purpose.
- Game 6: Planning by Scenarios. The sixth game trains *MacroSoftSkill* “SS3. Personal Social Responsibility” and the *MesoSoftSkills* of “3.1. Strategic Mindset” and “3.2. Conscientiousness”.
 - Open: “Discovering Early Warning System (EWS)” [83,84]. The objective is to train participants in the quick and agile detection of problems [41].
 - Explore: “Planning by Scenarios” [85], in which the participants learn to analyze a vital situation strategically, managing the uncertainty of different possible scenarios and establishing indicators to pivot their strategy from one scenario to another in an optimal way.

- Close: “Meticulous Attention” (adapted from the serious game “Objets Entermelés à Identifier” [86]), in which participants develop their level of attention and detail through various exercises of visual perception and selective attention.
- Game 7: Compassion. The seventh game trains *MacroSoftSkill* “SS4. Organizational Sustainability” and its *MesoSoftSkills* “4.1. Compassion”.
 - Open: “Observing Compassion at the Workplace”, in which participants watch one documentary: “Chade-Meng Tan- Everyday compassion at Google” [87].
 - Explore: “What Do You Think”, in which participants are divided into three groups and asked to discuss the following questions: How would you define compassion? How do you experience compassion? How compassionate do you consider yourself? Do you think compassion is a profitable soft skill for the company? Why?
 - Close: “Compassion at the Workplace”, in which participants learn the value of compassion and its application to achieving goals at the workplace.
- Game 8: Morality. The eighth game trains *MacroSoftSkill* “SS4. Organizational Sustainability” and its *MesoSoftSkills* “4.2. Morality”.
 - Open: “Marlene’s Story” [88], in which the participants are given a text to discuss. The objective is to invite participants to make an in-depth reflection and a series of ethical judgments about Marlene’s fictional story.
 - Explore: “Debate”, in which the participants discuss the moral dilemma posed by the text in small groups and then reach a consensus with the whole group and come to a conclusion.
 - Close: “Understanding Marlene?”, in which each participant provides an in-depth thought and a series of ethical judgments about Marlene’s fictional story.

2.4. The Sessions of the Program

After the selection of the soft skills, the appraisal tests, and the serious games, all composing the SSTP, the training program on soft skills was designed to be carried out in nine sessions of about 2 h, numbered 0–8, with the first and the last being the appraisal sessions, thus leaving seven sessions for training.

- Session 0: Appraisal tests before the training begins
- Session 1: “Paradoxical Thinking”
- Session 2: “Emotions”
- Session 3: “Growing in Mindfulness”
- Session 4: “Trust”
- Session 5: “Ikigai”
- Session 6: “Planning by scenarios”
- Session 7: “Compassion” and “Morality”
- Session 8: Appraisal tests after the training ends

3. The Pilot Study

3.1. Recruitment of Participants

To measure the effectiveness of SSTP (DO stage of the Deming cycle), 200 students aged 16 to 24 years were recruited. We believe this number is appropriate from both the theoretical and the applied point of view. Estimation of averages and percentages is consistent whenever 100 samples are taken following the law of large numbers. In terms of similar studies, we can mention samples of 65 nurses [89], 84 students in total from four different schools [90], 98 employees [91], or 216 employees [92]. Of this sample, 100 were university students and 100 were vocational training students. Vocational training refers to programs taught primarily at high schools that provide access not to the university but to technical programs. In this case, the vocational or technical training programs were computer systems administration technician, laboratory technician, and laboratory technician in analysis and quality control. The university participants came from the

Universidad Rey Juan Carlos. The vocational training participants came from the IES Lope de Vega de Madrid, a member of the UNESCO Associated Schools. The participants in the program were students from different vocational training programs at the center.

The selection of the participants at each center was made by means of an informative talk about the program, after which the students were invited to participate in the soft skills training program. The recruited students, before signing up on the list of participants, proceeded to fill out and sign two documents:

- Document on data protection, in which they gave their consent to cede their data for the research and expressly allowed such data to be used for a study that would be published later (the data would in any case be aggregated and never individualized), as well as for the preparation of a personalized soft skills report in which, once the study was completed, each participant would be presented with their individual results of the PRE and POST evaluations, a quantification of their improvement, and a training proposal to continue improving soft skills on their own.
- Commitment document, in which the participants signed that they would perform all the PRE and POST evaluations and be committed to participate in all the training sessions of the program, without missing any.

Before initiating the information and recruitment process, the project was subjected to an evaluation by the Ethics Committee of the Universidad Rey Juan Carlos (No. 1301202000920), to ensure that the study would be conducted in accordance with the rules and regulations governing research and covering the procedures and actions of research personnel.

3.2. *Soft Skills Measurement before Training*

Session 0 was carried out on two consecutive days, in which the students from the University and the Vocational Training center were gathered in two different rooms where they would take the appraisal tests. Before each test, the instructions were read, and solutions were given to the various doubts of the participants. The duration assigned for the tests in both sessions was as indicated in the manuals for each of them, and there was a brief rest period between tests, following the indications of the ethics committees to ensure optimal performance of the participants.

During the first day, the BFQ test was performed first, for which a time limit of 30 min was given. After this test, the participants were given a rest time of 5 min, and then proceeded to the AF-5 test, for which the time limit was set at 15 min. The total time was 45 min.

On the second day, the TCAE test was performed first, for which a time limit of 10 min was given. After this test, participants were given a 5 min rest time, followed by the EPQ test, for which a time limit of 20 min was given. Finally, after another 5 min break, the CS test was performed, for which a time limit of 30 min was also given. The total time was, therefore, 70 min.

3.3. *Soft Skills Training*

Sessions 1 to 7 were carried out over seven consecutive weeks, one per session (Figure 3). Each session took less than 2 h, the maximum available time. After giving a brief theoretical explanation to the participants explaining the basics of the soft skill to be trained and motivating them to perform the training flawlessly and what each dynamic was going to consist of, the exercises began.

3.4. *Soft Skills Measurement after Training*

Session 8, the POST training evaluation, was carried out to see the evolution of the participants and to what extent they improved their soft skills thanks to the program. The procedure to be followed was exactly the same as in Session 0 to ensure the correct comparison of the results of the appraisal tests.

SESSION	DATES IES	DATES URJC	CONTENT	DEVELOPMENT		TIME		
0	21/01/2020	23/01/2020	Initial measurements (125')	Part I	BFQ	30'		
					AF - 5	15'		
	22/01/2020	24/01/2020		Part II	TCAE	10'		
					CS	30'		
				EPQ-R	20'			
1	28/01/2020	30/01/2020	Gamestorming - Paradoxical Thinking (120')	I	Description	10'	SS1. INTRAPERSONAL	
				O	"Hero and Villain"	20'		
				E	"Through their eyes"	15'		
				E	"Paradoxical lists"	20'		
				C	"Relative paradox"	40'		
2	04/02/2020	06/02/2020	Gamestorming - Emotions (120')	I	Description	10'		
				O	"Eye dance"	5'		
				E	"Conscious breathing"	15'		
				C	"Body scanner"	10'		
3	11/01/2020	13/02/2020	Gameboard - Growing in Mindfulness (120')	I	Explanation of game rules	10'		
				Game development		110'		
				ME	Measurement of emotions	10' per person		
4	18/02/2020	20/02/2020	Gamestorming - Trust (120')	I	Description	10'	SS2. INTERPERSONAL	
				O	"Body Leadership"	20'		
				E	"Body Rapport"	40'		
				C	"Game of trust"	40'		
5	25/02/2020	27/02/2020	Gamestorming - IKIGAI (120')	I	Description	10'		
				O	"I know my purpose in life"	30'		
				E	"Share my purpose"	40'		
				C	"Activate my life purpose"	40'		
6	03/03/2020	05/03/2020	Gamestorming - Planning by scenarios (120')	I	Description	10'	SS3. PERSONAL SOCIAL RESPONSIBILITY	
				O	"Discovering Early Warning System (EwS)"	50'		
				E	"Planning by scenarios"	40'		
				C	"Meticulous attention"	20'		
7	17/03/2020 (Online)	19/03/2020 (Online)	Gamestorming - Compassion (120')	I	Description	10'	SS4. ORGANIZATIONAL SUSTAINABILITY	
				O	"Observing compassion at the workplace"	15'		
				E	"What do you think"	20'		
				C	"Compassion at the workplace"	15'		
			Gamestorming - Morality (120')	I	Description	10'		
				O	"Marlene's Story"	10'		
				E	"Debate"	20'		
				C	"Understanding Marlene?"	20'		
8	24/03/2020 (Online)	26/03/2020 (Online)	Final measurements (125')	Part I	BFQ	30'		
					AF - 5	15'		
	25/03/2020 (Online)	27/03/2020 (Online)		Part II	TCAE	10'		
					CS	30'		
				EPQ-R	20'			
SOFT SKILL TRAINING PROGRAM								

Figure 3. Overall improvement.

4. Results

Almost all participants completed the 9 week SSTP. The dropout rate during training was just 10% for university students and 11% for high-school students. What follows is a description and analysis of the results (CHECK stage of the Deming cycle) in overall terms, as well as by gender and educational center.

4.1. Overall Results

The evolution of the SSTP participants was positive (p -value = 0.034) (Figure 4), quantified by the "Improvement" of the scores resulting from the tests before and after the training, and summarized in the aggregate indicator "SS—Soft Skills" (which varied between 0 and 1). Out of the 21 *MicroSoftSkill* indicators, 10 significantly improved (p -value < 0.10). It should be noted that the three indicators of "SS3. Personal Social Responsibility" worsened. At the individual level and according to the indicator "%Positive",

which measures the ratio of individuals who show a positive improvement, 56.76% of the participants increased their scores. Once again, “SS3. Personal Social Responsibility” was the worst *MacroSoftSkill*, since none of its *MicroSoftSkills* reached 50%.

Macro	Meso	Micro	Pre	Post	Improvement	p-value	
SS1. Intrapersonal	1.1. Self-knowledge	1.1.1. Academic self-concept	0.6909	0.7252	0.0343	0.000 ***	
		1.1.2. Emotional self-	0.4653	0.4723	0.0069	0.285	
		1.1.3. Social self-concept	0.6900	0.7197	0.0297	0.015 **	
		1.1.4. Family self-concept	0.8417	0.8300	-0.0117	0.947	
		1.1.5. Physical self-concept	0.5961	0.6261	0.0300	0.001 ***	
	1.2. Self-management	1.2.1. Volatility	0.4495	0.4542	0.0047	0.348	
		1.2.2. Withdrawal	0.4835	0.5094	0.0259	0.009 ***	
SS2. Interpersonal	2.1. Empathy	2.1.1. Adopting perspectives	0.6906	0.7483	0.0577	0.000 ***	
		2.1.2. Understanding	0.6592	0.7062	0.0470	0.000 ***	
	2.2. Influence	2.2.1. Assertiveness	0.5154	0.5105	-0.0049	0.695	
SS3. Personal Social Responsibility	3.1. Strategic mindset	3.1.1. Openness	0.6057	0.5869	-0.0188	0.980	
	3.2. Conscientiousness	3.2.1. Industriousness	0.5569	0.5180	-0.0389	0.999	
		3.2.2. Orderliness	0.6090	0.5831	-0.0259	0.998	
		SS4. Organizational Sustainability	4.1. Compassion	4.1.1. Kindness	0.2523	0.2798	0.0276
4.1.2. Common humanity	0.1982			0.2438	0.0456	0.032 **	
4.1.3. Engagement	0.2432			0.2596	0.0163	0.250	
4.1.4. Indifference	0.2753			0.3035	0.0282	0.068 *	
4.1.5. Separation	0.2827			0.3035	0.0208	0.158	
4.1.6. Disengagement	0.2686			0.2934	0.0248	0.097 *	
4.2. Morality	4.2.1. Idealism		0.7607	0.7343	-0.0264	0.995	
	4.2.2. Relativism		0.3659	0.3834	0.0176	0.112	
	SoftSkills		0.5399	0.5464	0.0065	0.034 **	

Figure 4. Overall improvement. Improvements statistically greater than 0 at $p < 0.01$ (***), $p < 0.05$ (**), or $p < 0.10$ (*). We use a paired t -test throughout the research unless stated otherwise. We tested if the POST – PRE difference was significantly greater than 0, i.e., if the improvement was positive.

Indeed, as for the four *MacroSoftSkills* (Figure 5), three of the indicators went up: “SS1. Intrapersonal” (from 0.5616 to 0.5782; p -value = 0.003), “SS2. Interpersonal” (from 0.5951 to 0.6189; p -value = 0.000), and “SS4. Organizational Sustainability” (from 0.4083 to 0.4197; p -value = 0.114). The decrease in the score for “SS3. Personal Social Responsibility” was from 0.5943 to 0.5687 (p -value = 0.997), once again indicating that this *MacroSoftSkill* should be further trained.

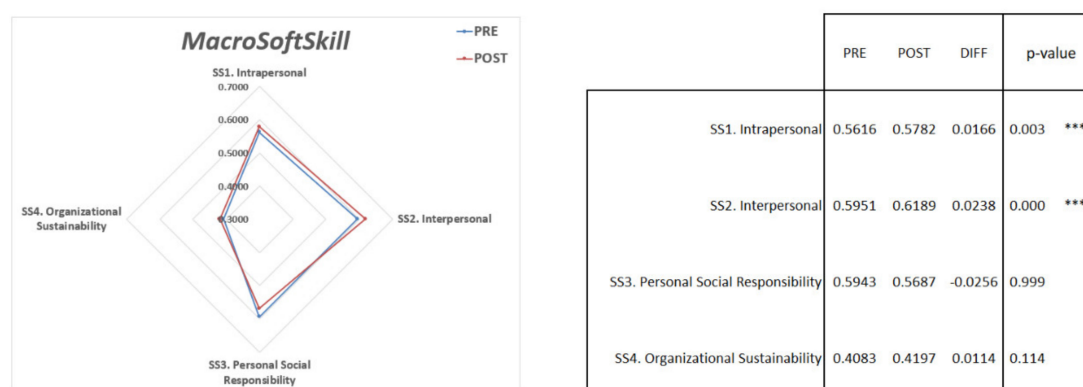


Figure 5. Comparison among *MacroSoftSkills*. Improvement > 0 at $p < 0.01$ (***).

As for the eight *MesoSoftSkills* (Figure 6), four went up and four went down. Participants increased in “1.1. Self-knowledge” (from 0.6567 to 0.6746; p -value = 0.003), “1.2. Self-management” (0.4665 to 0.4817; p -value = 0.060), “2.1. Empathy” (from 0.6749 to 0.7273; p -value = 0.000), and “4.1. Compassion” (from 0.2534 to 0.2806; p -value = 0.059), whereas they decreased in “2.2. Influence” (from 0.5154 to 0.5105; p -value = 0.999), “3.1. Strategic mindset” (0.6057 to 0.5869; p -value = 0.980), “3.2. Conscientiousness” (0.5830 to 0.5506; p -value = 1.000), and “4.2. Morality” (0.5633 to 0.5589; p -value = 0.708).

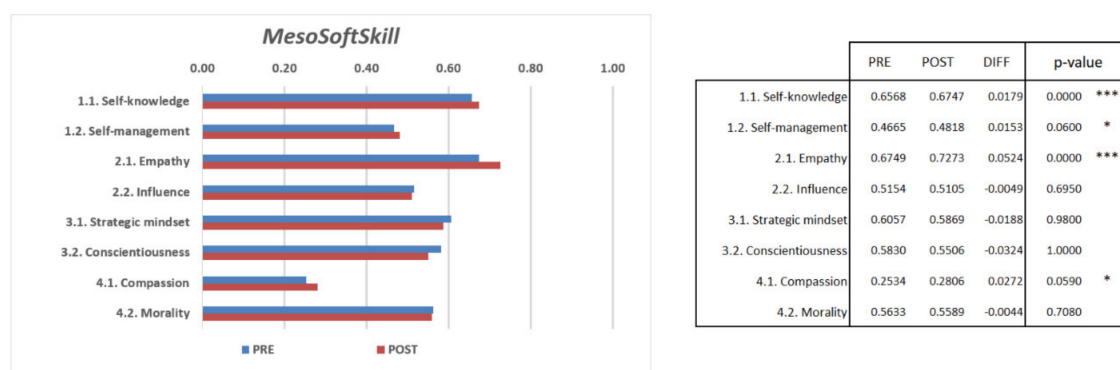


Figure 6. Comparison among *MesoSoftSkills*. Improvement > 0 at $p < 0.01$ (**), or $p < 0.10$ (*).

As for the 21 *MicroSoftSkills* (Figure 7), 15 went up (five with p -value < 0.01, two with p -value < 0.05, and three with p -value < 0.10) and six went down, with the three included in “SS3. Personal Social Responsibility” decreasing, in addition to “4.2.1 Idealism”.

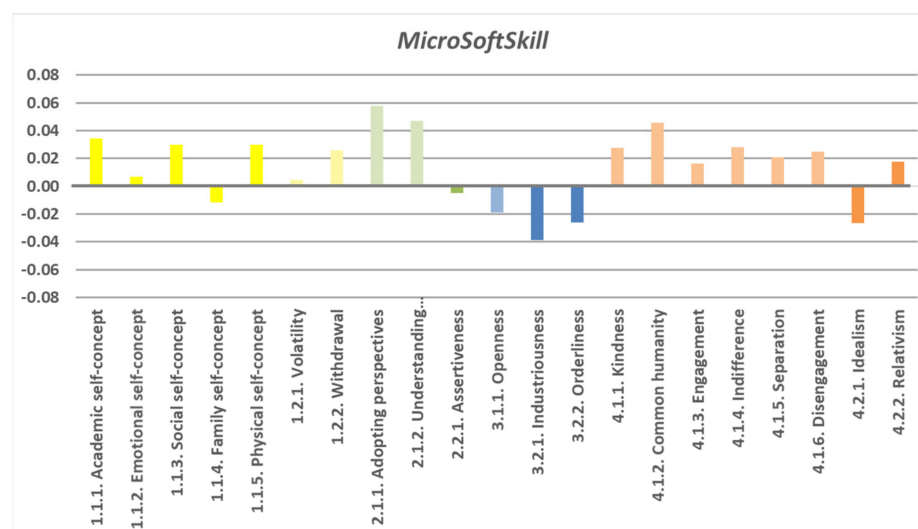


Figure 7. Comparison among *MicroSoftSkills*.

Lastly, at the individual level (Figure 8), some participants showed an improvement of 0.12 points, whereas a few others showed a decrease of 0.08 points. Overall, 57% of the participants showed improvement, with an average value of 0.0065 points (“Improvement” significantly greater than 0 with 95% confidence: p -value = 0.034).



Figure 8. Analysis of improvements in *SoftSkills* by individuals.

4.2. By Gender

If we compare the average improvement between women ($SS = 0.0055$) and men ($SS = 0.0083$), the SSTP training program showed similar effectiveness (average difference = -0.0028 , p -value = 0.694). The percentage of women showing improvements in the aggregate indicator “SS—*SoftSkills*” (Figure 9) was 55.07%, while, in the case of men, the percentage was higher, 59.52% (although the difference in proportions was not significant, p -value = 0.649). The maximum improvement reached 0.12 points for female and 0.08 for male students.

As for the *MesoSoftSkills*, the improvement by gender (Figure 10) was highest in “2.1. Empathy” in women (0.0622 female vs. 0.0363 male, with a nonsignificant p -value = 0.228) and in “4.1. Compassion” in men (0.0048 female vs. 0.0799 male, p -value = 0.017 , the only significant difference in average improvement among the eight *MesoSoftSkills*).

4.3. By Center

The SSTP demonstrated about the same average improvement (p -value = 0.344) for university ($SS = 0.0097$) and vocational training students ($SS = 0.0027$), although the development was somewhat higher (although not significantly for the difference in proportions, p -value = 0.649) and less variable among the university students (59.02% with a maximum of 0.10) with respect to vocational training students (54.00% with a maximum of 0.12). Figure 11 includes the distribution of “Improvement” by center.

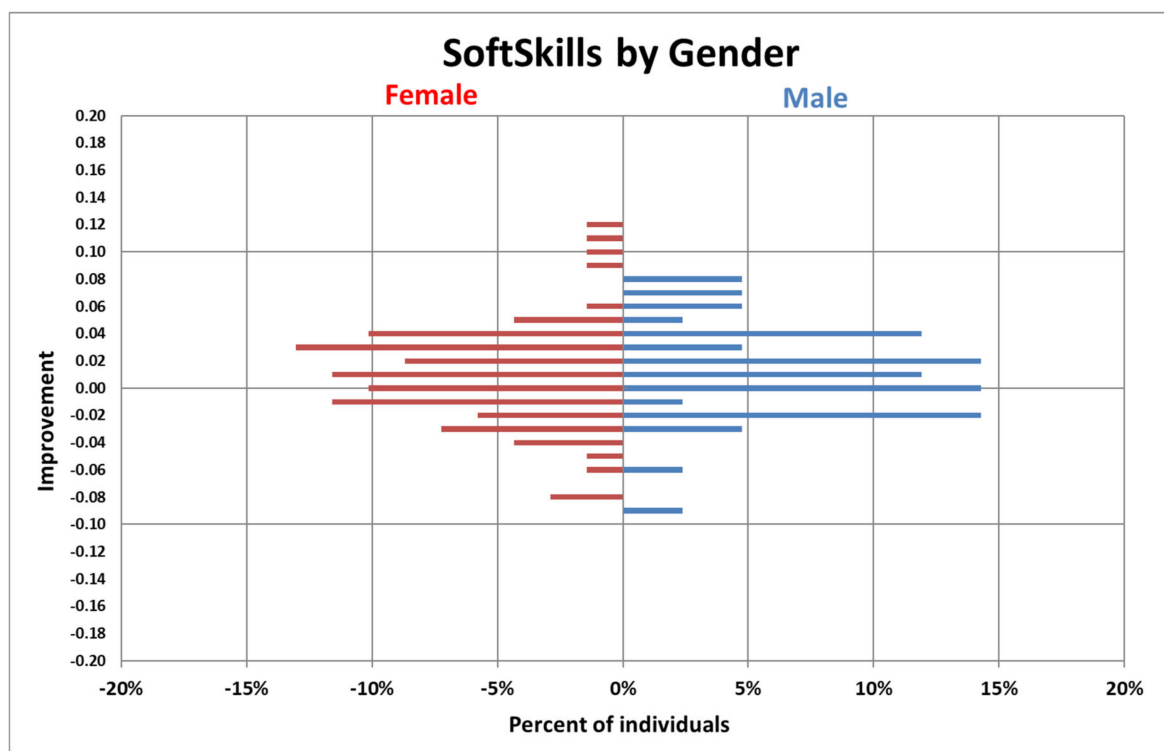


Figure 9. Improvement in *SoftSkills* by gender.

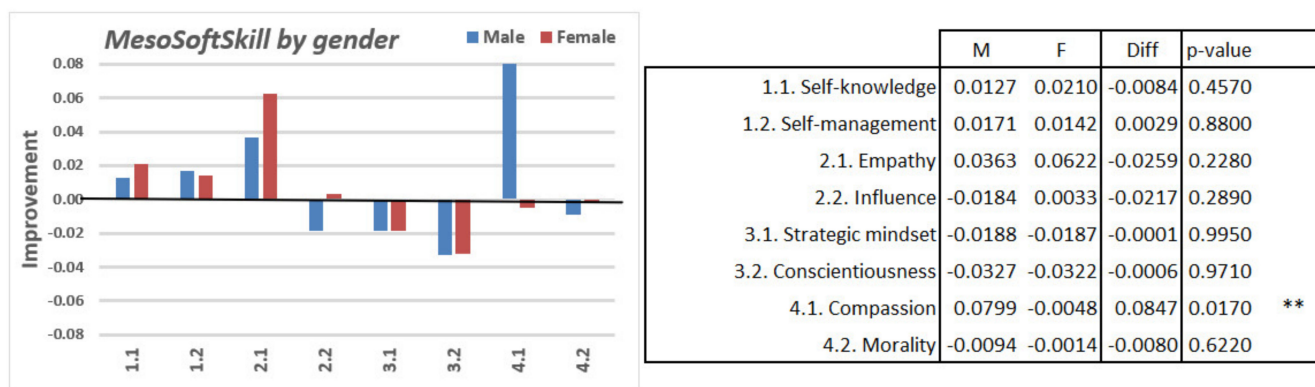


Figure 10. Improvement in *MesoSoftSkills* by gender. Improvement > 0 at $p < 0.05$ (**).

Regarding the *MesoSoftSkills* (Figure 12), the vocational training group had higher improvement in self-knowledge (0.0123 higher, p -value = 0.239), self-management (0.0214 higher, p -value = 0.296), empathy (0.0352 higher, p -value = 0.084), and compassion (0.0134 higher, p -value = 0.707) than university students, but they were the ones who found their improvement in influence (-0.0275 , p -value = 0.176), strategic mindset (-0.0303 , p -value = 0.239), conscientiousness (-0.0783 , p -value = 0.000), and morality (-0.0018 , p -value = 0.239) skills to be lower than the average values for university students. These results indicate that Sessions 5 and 6, which focused on “SS3. Personal Social Responsibility”, should probably be revised since “3.2. Conscientiousness” was the only one with a significantly negative difference.

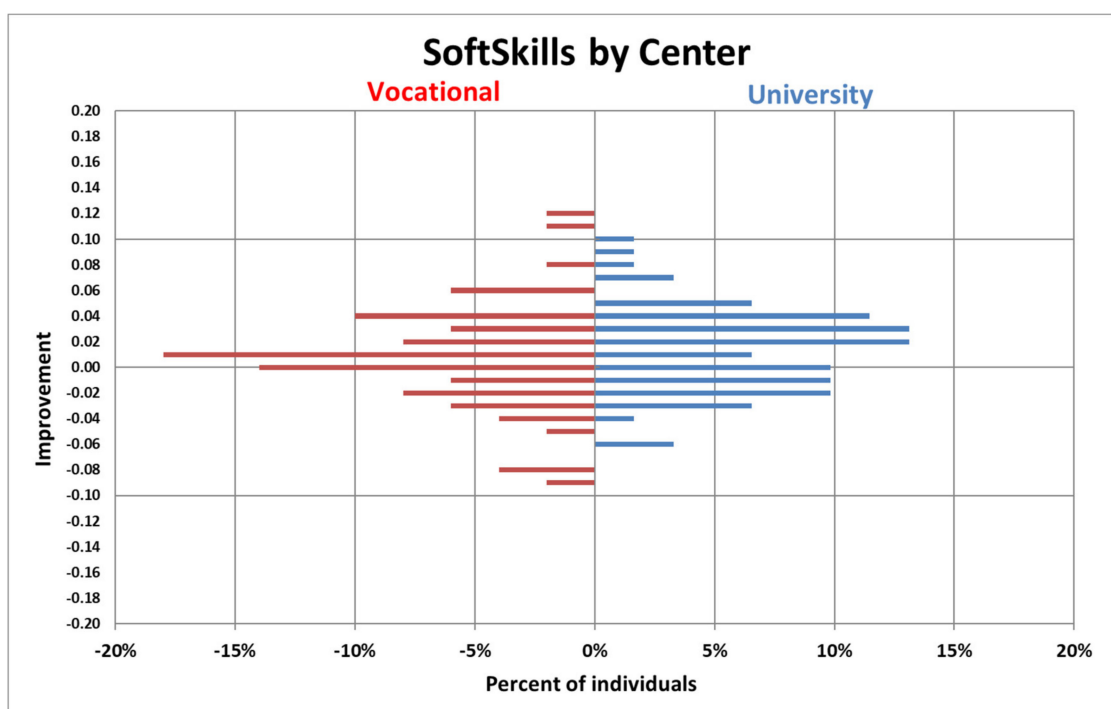


Figure 11. Improvement in *SoftSkills* by center.

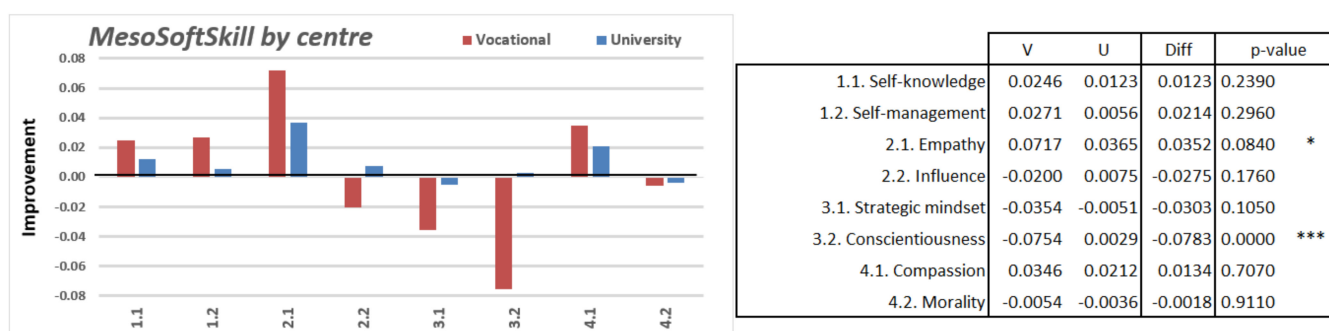


Figure 12. Improvement in *MesoSoftSkills* by center. Improvement > 0 at $p < 0.01$ (***), or $p < 0.10$ (*).

4.4. By Gender and Center

Therefore, which group benefited the most from the *SoftSkills* program, grouped by gender and center? The table in Figure 13 compares the effectiveness of the program across all groups using “Improvement” and “% Positive” of the aggregate indicator SS. Although the difference on average was not statistically significant across the four groups in either indicator (one way ANOVA; p -value = 0.598 for “Improvement”; p -value = 0.252 for “% Positive”), for descriptive purposes, it is worth mentioning that the maximum benefit of the program was obtained by male vocational students (66.67%), followed by female university students (62.79%), male university students (50.00%), and female vocational students (42.31%).

It can, therefore, be concluded that the program proved to be effective in general, even more so in the characteristics related to the person in their daily relationships than in those referring to planning, especially in the professional field. It should not be forgotten that these are young students and that certain sessions may have to be accordingly adapted to improve their training specifically.

SS - SOFT SKILLS	PRE	POST	Improvement	% Positive
FEMALE - VOCATIONAL	0.5382	0.5360	-0.0022	42.31%
FEMALE - UNIVERSITY	0.5436	0.5537	0.0101	65.38%
MALE - VOCATIONAL	0.5242	0.5322	0.0081	66.67%
MALE - UNIVERSITY	0.5542	0.5629	0.0086	50.00%
Total	0.5399	0.5464	0.0065	56.76%

Figure 13. Summary of improvement across groups.

5. Discussion and Conclusions

This article explained the development and testing of the novel SSTP, Soft Skills Training Program, which, for the first time to our knowledge, includes and combines multiple soft skills, appraisal tests, and serious games in nine sessions, two for evaluation and seven for training, covering a 9 week period. The objective of the current research, that of designing a unique, comprehensive, measurable training program to improve the competencies in soft skills based on serious games, was fulfilled using the Deming cycle.

SSTP addresses the requirement for future employees to possess soft skills to complement their hard skills with the aim of increasing their chance of employability in the new VUCA context. According to the National Institute of Statistics in Spain, the unemployment rate for youngsters up to 25 years of age is 39.53% [93], which ranks Spain second in this category across Europe (harmonized average of 17.5%) [94]. One of the reasons for this low rate is the lack of proficiency in terms of soft skills [95], which are necessary for any job [96]. Consequently, one comprehensive definition of employability is “the capability to move self-sufficiently within the labor market to realize potential through sustainable employment” [97].

In that regard, the first contribution of SSTP was to include, as a group of soft skills, those related to “SS3. Personal Social Responsibility” and “SS4. Organizational Sustainability” to supplement the traditional “SS1. Intrapersonal” and “SS2. Interpersonal” skills. With this addition, we tried to address both SDG4 on education and SDG8 on employment, which must be related since sustainable, inclusive economic growth cannot be possible without quality education [98] in both hard and soft skills.

The second contribution was that the SSTP trains and quantifies the development of soft skills at different levels. The proposed structure is composed of three levels: four *MacroSoftSkills*, which are subdivided into eight *MesoSoftSkills*, which are correspondingly subdivided into of 21 *MicroSoftSkills*. Furthermore, the program uses five appraisal tests to measure the micro level, before aggregating them to come up with measures at the meso level, and then at the macro level. The “SS—Soft Skills” indicator was proposed to measure the development as the aggregation of the scores of the four *MacroSoftSkills*. Indeed, specifically addressing and measuring 21 *MicroSoftSkills* proved feasible.

The third contribution was to use a combination of different serious games, both gametstorming and board games, particularized to comply with the definition of the soft skills and the difficulties of training students during the school year, despite it being an extracurricular activity. It is worth stressing that the use of serious games has been applied with success in non-ludic contexts [99], fostering learning [28,100,101]. Moreover, this teaching tool was substantiated in sustainability [102] and focuses on soft skills [103].

To check the proposed program, we tested SSTP with both university and vocational training students, the two major groups that are preparing themselves to work in the labor market. In fact, after analyzing the results, this distinction among training centers was vital and proved necessary to further develop the program, including variations and addressing the needs of the different target groups. Indeed, “SS3. Personal Social Responsibility” showed a negative improvement, even more so among vocational students,

whereas “SS4. Organizational Sustainability” showed a small improvement, even if the level of this SS was low. Therefore, a potential for development was detected among youngsters, especially in the novel *MacroSoftSkills*. In terms of gender, no major differences were found between female and male students, except for “4.1. Compassion”, in which male students showed an improvement and females did not.

After these general conclusions, it is worthy to take a deeper look into the results and discuss the implications of the training across soft skills and their different components, controlling for gender and educational level.

Concerning the improvement in soft skills after SSTP, the results varied across *MacroSoftSkills*. Whereas the traditional “SS1. Intrapersonal” and “SS2. Interpersonal” categories show reasonable improvement around a high average score of 0.58 and 0.62 after training, the novel “SS3. Personal Social Responsibility” and “SS4. Organizational Sustainability” categories showed values that require further discussion.

Indeed, “SS3. Personal Social Responsibility”, despite a POST training score of 0.57, showed a negative improvement, decreasing in both of its *MesoSoftSkills*: “3.1. Strategic mindset” (−0.075) and “3.2. Conscientiousness” (−0.035). Moreover, it is striking to see that the results were much worse for vocational training students when compared to university students. The reason might be the use of “Ikigai”, which, although it is a good tool to address employability [104], its target population is high-level employees [82] or maybe middle-level employees [105]. In this regard, vocational training students may not be a proper target of “Ikigai” since these students rarely believe that they can reach high-level employment. Nevertheless, we propose to keep using the same serious game, due to the absence of similar games in the literature, but to increase the training time to avoid undesired psychological reactions to the training (ACT stage of the Deming cycle). Three sessions of 2 h might be more appropriate than just 1.

With respect to “SS4. Organizational Sustainability”, despite showing positive improvement, the POST training score was 0.42, much lower than that for the other three *MacroSoftSkills*. One major cause might be age, with the students belonging to the digital Z generation [106,107]. This generation is characterized by a lack of patience, instantaneous mentality, lack of ambition as compared to previous generations, lack of attention, individualism, and dependence on technology, all characteristics summarized in materialism [108]. Making the Z generation aware of the importance of organizational sustainability is not easy, which also calls for increasing the length of the training sessions (probably three sessions instead of one) related to this increasingly important soft skill.

All in all, after a first full Deming cycle of the design of a training program, the results are promising to conclude that SSTP is a good and solid base for training future employees in the ever-demanding soft skills, regardless of the target group in terms of age or education level. The analysis after this first pilot study with more than 100 students, however, called for adjustments in the sessions, especially those related to the newly proposed SS3 and SS4. More specifically, the length or number of sessions should be increased so that the training might be properly carried out. We may need to develop a 14 week program in the next Deming improvement cycle, which is the length of a traditional university course, in order to at least provide participants with a full training that favors employability.

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Institutional Review Board Statement: The study was conducted according to the guidelines of the Declaration of Helsinki, and approved by the Ethics Committee of the Universidad Rey Juan Carlos (protocol code 1301202000920, 22 January 2020).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: Data are available upon request.

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