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Chapter 6

Traceability of Intra- and Interpersonal Skills: From Education to Labor Market

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Additional information is available at the end of the chapter

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Abstract

Both educators and employers agree there is a growing gap between competences that labor market expects from its new employees and skills they own. Literature review holds that a set of nontechnical, professional abilities and intra- and interpersonal attitudes are required to close this gap and indicates that more training of soft skills is needed to access employment and success in work life. Although these skills are theoretically included in educational stages, project management approach can be incorporated to improve students and new employees' practical curricula. The methodology consists of the critical review of the competency frameworks established by the DeSeCo and Tuning projects, confronting them against the requirements currently demanded by labor market, based on the reports of Deloitte, PwC, EY, and KPMG, to detect inconsistencies between educational and professional stages and check if project management standards, by PMI and IPMA, cover them. Compiling these weaknesses, actions can be established aimed at solving them, based on project management proposals. The incorporation of project management concepts into educational stages, especially the vision by competences, contributes to improve the employability by highlighting those transverse but essential skills that lead to versatile and successful professionals. To achieve this, it is necessary to care for human competences.

Keywords: intrapersonal competences, interpersonal competences, soft skills, twenty-first century skills, DeSeCo project, Tuning project, IPMA ICB, PMI PMCDF

1. Introduction

In the knowledge society, as van Laar et al. expose [1], organizations operate in a global economy characterized by an intense competition, interdependence, and collaboration.

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For Sliter [2], economic, demographic, and technological changes have ushered in a revolution of globalization and rapid innovation, needing a method of describing requirements to accommodate this unpredictability.

Besides, as Neubert et al. hold [3], in modern organizational work environments, the classic career approach has broadly been replaced by new paradigms that minimize organizational factors and stress the importance of an individual set of skills, including transversal ones.

In this environment, as Rodriguez et al. argue [4], competency modeling's inherent adaptability allows it to easily adapt complex, changeable positions, and the nonroutine and interactive tasks required therein. For Bonilla [5], the competence-based education (CBE) has multiple applications for the development of people, organizations, and society, as a whole, highlighting the link between education and labor.

Education programs aim to prepare students for the workplace, as Rainsbury et al. conclude [6], by developing generic and specific competencies useful to students and employers.

2. Scope

This chapter studies the traceability of intra- and interpersonal skills demanded by labor market from educational stages, investigating how project management by competencies approach can help to correct the gaps detected through continuous formation programs, ready to success into the labor market in a dynamic and changing context.

The research is focused on the Latin America countries, Portugal, and Spain, from their regulatory frameworks to practical research studies.

2.1. Objectives

The main objective is to establish a traceable sequence of every intra- and interpersonal skill demanded by the workplace, checking if it is legally collected during learning phases, developed in training and properly applied to working life, like **Figure 1** shows. Likewise, other goals are:

- To contrast that focusing on competency project management approaches is an effective method to implement transversal skills in students and new employees, improving their satisfaction, productivity, and efficiency
- To establish a theoretical framework of intra- and interpersonal skills, which should be taken into account in order to currently succeed into the labor market, ready to be collated, by statistical study and/or case study in future research.

2.2. Methodology

The methodology consists of the critical review of the competency frameworks established by scientific literature, from three points of view: education, project management, and workplace.

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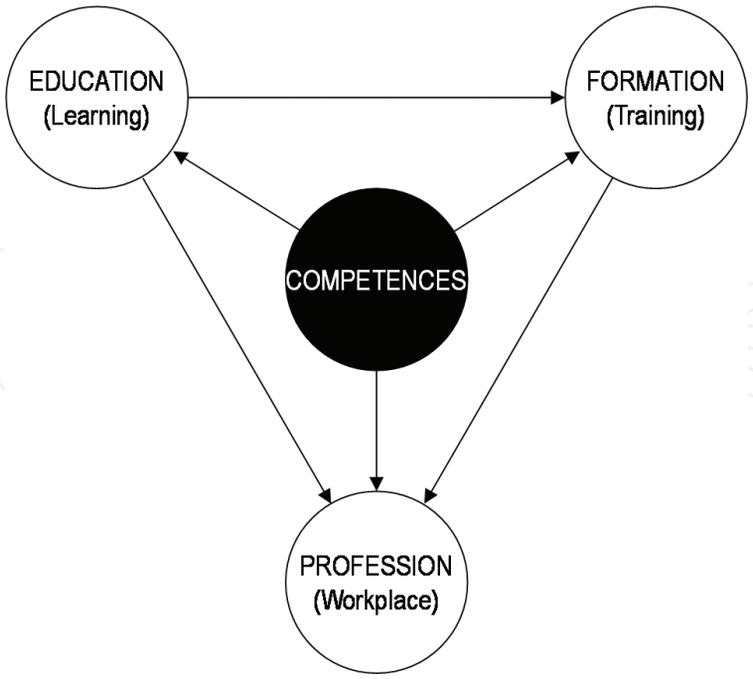


Figure 1. Research framework.

In educational stages, Definition and Selection of Competencies (DeSeCo) Project of the Organization for Economic Co-operation and Development (OECD), during the preuniversity period, and the Tuning project for the European Higher Education Area (EHEA) and América Latina Formación Académica (ALFA), at the university stage, offer and develop the legal framework in which stakeholders have to act. These approaches will be compared and contrasted to topic researches.

Project management by competencies, in this investigation, has a double meaning. On the one hand, it is an emerging profession and, on the other, thanks to its intrinsic transverse and humanistic condition, it covers management requirements in any sector. From the analysis of standards, baselines, knowledge bodies, and frameworks of the two oldest organizations in project management, both the International Project Management Association (IPMA) and the Project Management Institute (PMI), intra- and interpersonal skills and competences are collected and prioritized according to topic researches.

Based on the reports of the most prestigious consulting firms, Deloitte, PricewaterhouseCoopers (PwC), Ernst & Young (EY), and KPMG, the intra- and interpersonal skills most demanded by labor market are filtered and endorsed by topic researches.

With this method, inconsistencies between educational and professional stages are detected, so that improvement actions can be proposed from project management.

3. State of the art

Cleary et al. define employability skills as generic capabilities, key skills which play a significant role in contributing an individual's effective and successful participation in the workplace [7].

In this context, for Gibb [8], generic skills are essential for employment and personal development, fulfillment, community life, and active citizenship. These skills must own, in order to be useful, these characteristics:

- Preparing for employment
- Emerging at entry levels within industry, thanks to be generic
- Equipping individuals to participate effectively in workplaces and adult life
- Being able to be learned
- Being amenable to credible assessment

3.1. Concept of intra- and interpersonal skills

Hard skills can be defined as the specific knowledge and abilities required for a job. However, soft skills are much more difficult to define and measure. They are the interpersonal (people, social) skills that help oneself to successfully interact with others in the workplace, and interpersonal (human, individual) skills that allow oneself to know, understand, and manage own cognition and emotions. In **Table 1**, some definitions from literature are presented:

In summary, soft skills are social abilities and individual attributes, which can also be called as twenty-first century skills by many authors, such as Kraiger [14], Gibb [8], Nealy [15], Gewertz [16], Ziegenfuss [17], Hodge and Lear [18], Suto [19], Soland et al. [20], Hayes [21], Davis [22], Neubert et al. [3], Su et al. [13], Schooner et al. [23], or Ali et al. [24].

For the Collins English Dictionary, Desirable qualities for certain forms of employment that do not depend on acquired knowledge, among are included the common sense, the ability to deal with people, and a positive flexible attitude.
For the Oxford Dictionary, Personal attributes that enable someone to interact effectively and harmoniously with other people.
For Rainsbury et al. Behavioral skills required for the application of hard skills and knowledge in organizations.
For Perreault, Personal qualities, attributes, or the level of commitment that allow an individual to distinguish from others who may have similar skills and experience.
For James and James, Set of abilities or talents that an individual can bring to the workplace.
For Bonilla, Application of practical knowledge through physical and intellectual skills and abilities, with respect to criteria or standards of expected performance.
For Su, Golubovich, and Robbins, Group of constructs that are used to refer to important predictors of readiness and success in the workplace across multiple domains of individual differences and beyond the knowledge acquired in formal education.
Extract of [5, 6, 9–13].

Table 1. Definition of soft skills.

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3.2. Soft skills in educational stages

In the educational context, Cullen defines competence as complex integrated capacities, in different degrees, in which education must train individuals so that they can operate as responsible subjects in different situations and contexts of their social and personal life, knowing how to see, do, act, and enjoy properly, assessing alternatives, choosing appropriate strategies, and taking responsibility for the decisions taken [25].

Besides, as Ali et al. highlight [24], education requires the integration of relevant content, skills, and instructional support to enhance knowledge processes in line with twenty-first century employability requirements. However, authors, such as Gewertz [16], Bronson [26], Klaus [27], Mitchell et al. [28], or Tan et al. [29], among others, conclude that current students (future employees) do not have the set of soft skills they need to be successful in workplace.

In fact, the lack of soft skills may truncate promising careers with technical abilities and professional expertise but with no human qualities like Klaus affirms [27]. Likewise, as Nabi and Bagley expose [30], recent graduates tend to rate the importance of generic transferable skills more highly than their own ability in those ones.

Even the International Youth Foundation (IYF) publishes the gap among students' characteristics and employers' demands is increasing, due to the lack of soft skills, which is avoiding the achievement and success of the majority of entry-level candidates [31].

Soft-skills education has been overshadowed by the quantitative focus in most educative programs, despite the weak relationship found between curricula and career success, as Laud and Johnson asseverate [32]. Likewise, as Hassan et al. conclude [33], soft skills have been very difficult to embed in teaching and learning courses.

However, as Low et al., Vázquez and Liesa discuss [34, 35], through a review of academic programs, it is possible to improve the acquisition of these transversal skills students are going to need in their professional and personal lives. In this regard, Tito and Serrano remark the importance that universities prepare students in soft skills and graduate with tools that add a differentiating advantage that allows them to compete in the labor market and generally maintain a high sense of well-being with themselves [36].

3.2.1. DeSeCo project for preuniversity stage

The DeSeCo project of the OECD defines competencies as the abilities to successfully meet complex demands in a particular context, implying the mobilization of knowledge, cognitive, and practical skills, as well as social and behavior components such as attitudes, emotions, and values and motivations [37].

In a holistic notion, according to the conceptual framework of DeSeCo, if competency is not reduced to its cognitive dimension, it has a broader meaning than a skill.

Key competencies shown in **Table 2**, as OECD remarks [37], are not determined by arbitrary decisions about what personal qualities and cognitive skills are desirable, but by a careful consideration of the factors required for a successful life and a well-functioning society.

Use tools interactively	Interact in heterogeneous groups	Act autonomously
Use communication skills effectively	Be empathetic	Understand patterns
Access adequate information sources	Manage emotions	Have an idea of the system
Evaluate the value of information	Present ideas and listen to others	Identify action consequences
Organize knowledge and information	Understand debate	Choose among available options
Use technology	Construct tactical alliances	Define projects and set goals
—	Negotiate	Evaluate necessary resources
—	Make decisions	Balance resources to meet goals
—	Analyze issues and interests	Learn from past actions
—	Identify areas of agreement	Monitor progress
—	Reframe the problem	Understand own interests
—	Prioritize needs and goals	Know rules and principles
—	—	Construct arguments
—	—	Suggest alternative solutions

Extract of [37].

Table 2. Key competencies of DeSeCo project.

DeSeCo also sets a conceptual context for assessment by the Programme for International Student Assessment (PISA), considering their criticity according to three criteria:

- Contribution to highly valued outcomes at an individual and societal level
- Instrumentation for meeting important, complex demands and challenges
- Importance for all individuals, not just for specialists

In the Latin America, Portugal, and Spain contexts, only Chile, Colombia, Mexico, Spain, and Portugal are members of the OECD, being Brazil a partner and Costa Rica a guest. However, an OECD regional initiative covers the whole Latin American region.

In **Table 3**, OECD PISA 2015 results are shown [38]. It´s observed a level of performance and resilience below the average, which contradicts with the levels of motivation, interest, and enjoyment.

3.2.2. Tuning project for university stage

Tuning project defines a competence, into an integrated approach, as the capability to execute the degree of preparation, sufficiency, and/or responsibility for certain tasks [39]. Also defines it as a dynamic combination of knowledge, understanding, skills, abilities and values [40] and as the capacities that all humans need to resolve the situations that arise in their lives effectively and autonomously [41]. To understand this concept of competence properly, it is necessary to include knowing how to:

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- Understand: theoretical knowledge of an academic field
- Act: practical and operational application of knowledge to certain situations
- Be: values as an integral element of the way of living in a social context

EHEA and ALFA Tuning projects propose a methodology [40, 41], whose framework is designed to understand and compare the curricula, based on these five approaches:

1. Generic competences
2. Specific competences
3. Learning, teaching, assessment, and performance
4. Role of European Credit Transfer System (ECTS) as an accumulation system
5. Role of quality enhancement in the educational process

Within this context, Tuning classifies generic competences, as **Table 4** shows into three groups:

- Instrumental (cognitive abilities, methodological capacities, linguistic skills, and technological capabilities)
- Interpersonal (individual abilities and social skills)
- Systemic (abilities and skills concerning whole systems)

Rank		Performance	Efficacy	Enjoyment	Interest	Motivation	Resilience
—	OECD average	49%	24%	60%	53%	65%	29%
23	Portugal	50%	31%	73%	66%	72%	38%
30	Spain	49%	23%	61%	58%	68%	39%
38	Argentina	47%	31%	52%	—	66%	15%
44	Chile	44%	19%	67%	54%	68%	15%
47	Uruguay	43%	23%	64%	54%	72%	14%
53	Trinidad and Tobago	42%	37%	71%	—	78%	13%
55	Costa Rica	42%	24%	78%	60%	77%	9%
57	Colombia	41%	24%	79%	67%	78%	11%
58	Mexico	42%	27%	76%	70%	80%	13%
63	Brazil	40%	27%	77%	62%	81%	9%
64	Peru	39%	29%	79%	71%	85%	3%
70	Dominican Republic	34%	36%	84%	80%	82%	1%

Extract of [38].

Table 3. OECD PISA 2015 results.

Instrumental	Interpersonal	Systemic
Analysis and synthesis	Criticism and self-criticism	Applying knowledge in practice
Organization and planning	Teamwork	Research
Basic general knowledge	Interaction with technical experts	Learning
Communication	Working in heterogeneous teams	Adaptation to new situations
Elementary computing	Appreciation of diversity	Creativity
Information management	Working in international context	Leadership
Problem solving	Ethical commitment	Judgment of cultures and customs
Decision making	Motivation	Working autonomously
—	Cooperation	Project design and management
—	—	Initiative and entrepreneurial spirit
—	—	Concern for quality
—	—	Will to succeed

Extract of [39].

Table 4. EHEA and ALFA tuning project competences.

Tuning EHEA includes Portugal and Spain and Tuning ALFA counts with the participation of Argentina, Brazil, Bolivia, Colombia, Costa Rica, Cuba, Chile, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and Venezuela.

3.3. Soft skills in project management

Projects, as Jensen et al. affirm [42], have become omnipresent not only in economy but also in society. In fact, both DeSeCo in the preuniversity stage (defining projects and setting goals) and Tuning in the university stage (designing and managing projects) include projects in all students' curricula.

The importance of both hard skills (relating to processes) and soft skills (dealing with people) is widely recognized in project management (PM), as Azim et al. and Ahern et al. explain [43, 44], being managers, individually, responsible for balancing and optimizing their application. Chipulu et al., in the context of PM, extract six dimensions for them [45]:

1. Industry-specific and generic skills over project management knowledge/expertise
2. PM knowledge/expertise over industry-specific and generic skills
3. Managerial (senior) skills
4. Personal (positive) traits
5. Project management methodology experience and professional qualifications
6. Risk management over a project life cycle

For Ojiako et al. [46, 47], to learn properly about social and behavioral skills is critical in order to complete the role transformation from technicians to managers. Azim et al. advice that project managers and senior executives have to realize the significance of managing people [43]. In this context, soft skills are increasing their influence, being not only required but also important to manage teams. Pant and Baroudi identify soft skills as the missing link critical for achieving project success and advice the lack of emphasis placed on this within the context of university education [48]. Strang concludes that managing projects requires a series of skills, including interpersonal abilities, technical competencies, cognitive aptitudes, the capability to understand both context and people, and the integration of leadership behaviors [49]. Posner argues that rather than technical skills, intrapersonal and interpersonal competences are the most critical to solve problems in project management [50]. Likewise, for Chipulu et al., both managerial skills and personal traits are critical to manage complex environments characterized by rapid changes and uncertainty [45].

In summary, in the context of project management, there are a lot of studies that highlight the impact of soft skills on project success, as Strang [49], Pant and Baroudi [48], Awan et al. [51], López et al. [52], Kandelousi et al. [53], Cousillas et al. [54], Koutsikouri et al. [55], Camilleri [56], Davis [22], or Carmona-Chaves [57], among others, expose.

3.3.1. IPMA approach

IPMA is the World's first project management association (in particular, a federation of 68 national PM associations), founded in 1965, that offers unique, role-specific competence development guidelines, for improved project success.

IPMA competence baseline (ICB) is a global standard that defines the competences required by individuals working in the field of PM, to train (and certify) future professionals, who will probably work in distributed environments with overlapping and conflicting stakeholder interests, shaped by real-time data and performance management tools, challenged with too much information and not enough communication, and judged by their ability to deliver outcomes that align with short- and long-term strategies [58]. IPMA organizes the profession into three competence areas:

- People: Personal and interpersonal competences required to succeed in projects
- Practice: Technical aspects of managing projects
- Perspective: Contextual competences that must be navigated within environment

Table 5 shows people competences, as well as skills related to them.

3.3.2. PMI approach

PMI is the world's leading professional membership association for PM, founded in 1969, with over half a million members and certification holders in 185 countries. The guide to the project management body of knowledge (PMBOK) provides guidelines for managing individual projects and defines PM-related concepts, as methods, processes, and practices [59].

People competences	Skills related
Communication	Facilitation, empathy, moderation, promotion
Conflict and crisis	Creativity, moderation, persuasiveness, prevention
Integrity and reliability	Confidence, consistency, equity, ethics, professionalism, responsibility, trustworthiness
Leadership	Awareness, coaching, commitment, decision making, empowerment, flexibility, influence, learning, managing, mentoring, proactivity, team building
Negotiation	Assertiveness, empathy, patience, persuasion, attitude
Relations and engagement	Commitment, confidence, diversity, empathy, encouragement, engagement, facilitation, intuition, motivation, networking, resistance, team building
Resourcefulness	Critical thinking, decision making, creativity, facilitation, innovation, problem solving, resilience
Results orientation	Balance, delegation, effectiveness, efficiency, entrepreneurship, organization, productivity, sensitivity
Self-reflection & self-management	Awareness, confidence, delegation, effectiveness, focusing on goals, motivation, organization, prioritization, relaxation, responsibility
Teamwork	Cooperation, delegation, empowerment, facilitation, networking, organization, recruitment, time management, team building

Extract of [58].

Table 5. IPMA ICB People competences and skills related.

However, understanding and applying tools and techniques recognized as good practice are not enough to be effective. In addition to specific skills and general management proficiencies required for a project, it is necessary to domain the three competency dimensions, as PMI proposes in the project manager competency development framework (PMCDF) [60]:

- Knowledge: Knowing about PM
- Performance: Accomplishing while applying PM knowledge
- Personal: Behaving when performing the project or related activities

Table 6 Shows interpersonal skills (from PMBOK) and personal competences (from PMCDF).

3.4. Soft skills in workplace

Employability includes an array of technical and nontechnical skills, as well as knowledge, management, and experience, in order to ensure that a student is able to put them into practice, reason why they should be included into the educational stages, as Sangwan and Garg hold [61]. In the same way, Robles states that executives consider soft skills a very important attribute in job applicants [62]. According to Sutton, soft skills are extremely important for job hires in many occupations [63]. Besides, Truong et al. reveal that major employers value the potential role that soft skills can play in maximizing business success [64].

Interpersonal skills	Personal competences
Awareness	—
Coaching	—
—	Cognitive ability
Communication	Communicating
Conflict management	—
Decision making	—
—	Effectiveness
Influencing	—
Leadership	Leading
—	Managing
Motivation	—
Negotiation	—
—	Professionalism
Team building	—
Trust building	—

Extract of [59, 60].

Table 6. PMI PMBOK and PMCDF interpersonal skills and personal competences.

For Mitchell et al. [28], in the twenty-first century, organizations seek versatile individuals, even for entry-level jobs. The integration of soft skills into students' curriculum also promotes their hiring in today's workforce, and their proficiency is important to potential employers. Lindsey and Rice recapitulate that successful graduates should possess a high ratio of emotional-social intelligence against book smarts [65]. In fact, as many authors as Saravanan [66], Ramlall and Ramlall [67] or Alismail and McGuire [68], among others, resume, employers are increasingly demanding a greater range of soft skills. In fact, as Robles holds [62], candidates, who add value with their soft skills, have the ability to make the difference in obtaining and retaining the jobs for which they have been prepared.

Pittenger et al. or Nealy consider soft skills a factor of equal importance to hard skills in career success [69, 15]. Other authors, as Wats and Wats or Klaus, claim that soft skills account for individual success more than hard skills [70, 27]. It is incontestable that soft skills play an integral role in success, as Bennett [71], Gibb [8], Schultz [72], Weber et al. [73], Sheikhy and Shafiee [74], Truong et al. [64], Tito Maya and Serrano Orellana [36], Holtzman and Kraft [75], or Nusrat [76], among others, remark.

From the studies published by Deloitte, EY, KPMG, and PwC, also known as the Big Four because they are the largest professional networks that offer their services in management consulting to majority of public and private companies all around the world, a compilation of the most demanded soft skills in the labor market is made.

Once the assemblage is collected, then only those that are repeated are transferred to **Table 7**, discarding other soft skills for employability, such as assertiveness, balance, coaching, commitment, compliance, confidence, conflict resolution, empowerment, encouragement, endurance, engagement, esteem, facilitation, honesty, illusionment, inclusiveness, judgment, monitoring, participation, perceptiveness, positive attitude, reasoning, recruitment, responsiveness, sociability, technology, and training.

Skills	**Labor market demands**			
	Deloitte	**EY**	**KPMG**	**PwC**
Adaptability	X		X	X
Appreciation		X	X	
Awareness	X		X	
Collaboration	X			X
Communication	X	X	X	X
Control		X	X	
Cooperation		X	X	
Coordination	X			X
Creativity	X			X
Critical thinking	X		X	X
Customer service	X	X		X
Decision making	X		X	X
Diversity		X		X
Ethics	X	X	X	
Flexibility	X	X	X	
Influence			X	X
Initiative	X		X	
Innovation	X			X
Integrity		X		X
Leadership	X	X	X	X
Learning	X		X	
Management	X	X	X	
Mentoring	X	X		
Motivation			X	X
Negotiation	X	X	X	X
Networking		X	X	X
Organization		X	X	

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Skills	Labor market demands			
	Deloitte	EY	KPMG	PwC
Persuasion	X		X	X
Planning		X	X	
Problem solving	X	X	X	X
Professionalism	X		X	
Sensitivity	X		X	
Teamwork	X		X	X
Time management			X	X
Trustworthiness		X		X

Extract of [77–82].

Table 7. Essential skills for labor market demands by Big Four.

4. Comparative analysis

Table 8 Summarizes the whole collection of soft skills from the literature review, but those skills that have only appeared on a single occasion have been eliminated, such as agility, appearance, authority, balance, citizenship, coaching, cooperation, coordination, directiveness, independence, investigation, loyalty, marketing, opportunity, patience, persistence, persuasion, proactivity, reliability, sensibility, and training.

5. Discussion

Comparative analysis from literature review made in **Table 8** has to be contrasted against Big Four's compilation. Then, once the most demanding skills have been selected, it is necessary to check if PM frameworks chosen incorporate them, in order to establish a model of practical implementation during the formative stages, especially the university.

Firstly, there are soft skills that are highlighted almost unanimously: communication, teamwork, problem solving and/or conflict resolution, critical thinking, self-reflexion and self-management, and leadership.

Secondly, other soft skills are emphasized by the majority of authors, educators, trainers, practitioners, consultants, and employers: ethics and/or integrity, creativity, active learning, motivation, attention to diversity, and professionalism and/or reliability.

Thirdly, it is convenient to accentuate other soft skills that are very present among consultants, PM frameworks, and educational projects, which have hardly been studied, in general, by authors and researchers: decision making, result orientation, influence and/or persuasion, coaching and mentoring, negotiation, and coordination and/or cooperation.

Skills	Educational stages								Project management								Workplace							
	[30]	[6]	[72]	[17]	[32]	[34]	[21]	[64]	[50]	[83]	[43]	[19]	[46]	[51]	[75]	[1]	[7]	[73]	[28]	[18]	[31]	[67]	[62]	[76]
Adaptability													X	X			X							
Awareness	X	X	X				X			X		X				X					X			
Collaboration				X						X		X				X								
Commitment		X					X										X	X						
Communication	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X
Confidence		X			X		X							X										
Courtesy			X														X	X				X	X	
Creativity			X	X		X			X	X		X				X				X		X		
Critical thinking		X	X	X		X		X		X		X	X		X	X			X	X	X			X
Customer service		X			X												X		X					
Decision making						X				X		X									X			
Delegation									X		X			X										
Development		X												X										
Diversity	X		X			X									X			X	X		X			
Empathy			X					X	X															
Entrepreneurship			X														X							
Enthusiasm														X	X		X	X						
Ethics			X		X			X							X	X			X	X	X	X	X	
Flexibility	X	X						X	X					X	X	X						X	X	
Honesty			X														X	X			X			
Influence		X																X						
Initiative	X	X		X													X							

Skills	Educational stages								Project management								Workplace								
	[30]	[6]	[72]	[17]	[32]	[34]	[21]	[64]	[50]	[83]	[43]	[19]	[46]	[51]	[75]	[1]	[7]	[73]	[28]	[18]	[31]	[67]	[62]	[76]
Innovation				X						X		X					X			X				
Integrity			X		X												X	X			X		X	
Leadership		X		X	X	X	X	X			X			X	X				X	X		X		X
Learning		X							X	X		X	X			X	X				X			
Motivation					X				X		X				X		X	X			X			X
Negotiation			X					X																
Networking					X			X							X									
Planning	X	X	X						X				X		X						X			
Positive attitude								X													X	X	X	
Problem solving			X	X		X	X	X		X		X	X	X		X	X		X	X	X			X
Professionalism								X							X			X		X	X	X	X	
Responsibility			X	X				X		X	X	X								X	X	X	X	
Result orientation		X					X		X															X
Self-organization	X	X	X			X	X	X	X				X		X	X	X		X		X			X
Socialization			X				X			X		X	X	X	X			X		X	X	X	X	X
Teamwork	X	X	X			X	X	X	X	X	X	X		X	X		X		X	X	X	X	X	X
Technology	X	X								X			X			X	X			X				

Table 8. Twenty-first century skills from literature review in education, PM, and workplace.

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Later, it is opportune to rescue other soft skills whose interest grows over time, finding more and more references in recent literature: competitiveness, customer service, initiative and/or entrepreneurship, marketing and publicity, and sustainability.

To conclude, from the compilation of the soft skills developed, it is opportune to discuss how these skills can be grouped, for which how the authors have organized them is analyzed.

Cheng, Dainty and Moore, and Le Deist and Winterton, in the context of human resources management, classify competences into three groups [84, 85]:

- Functional (job-specific skills)
- Cognitive (knowledge and understanding)
- Social (behavioral and attitudinal)

In the same vein, Binkley et al. organize twenty-first century skills into three groups [83]:

- Ways of thinking
- Ways and tools for working
- Living in the world

Similarly, Onisk classifies generic soft skills into three broad categories [86]:

- Behavioral development: improving (or enhancing) the underlying social behaviors and influencing capabilities
- Professional development: obtaining (or maintaining) a professional certification or accreditation
- Compliance: helping employers become legally compliant with legislated standards

According to classifications studied, selected skills are organized in **Table 9**.

Intrapersonal		**Interpersonal**
Cognitive	**Individual**	**Social**
Active learning	Competitiveness	Attention to diversity
Communication	Empathy and/or sensitiveness	Coordination and/or cooperation
Creativity	Ethics and/or integrity	Customer service
Critical thinking	Initiative and/or entrepreneurship	Influence and/or persuasiveness
Decision making	Leadership	Marketing and publicity
Problem solving and/or conflict resolution	Motivation	Mentoring and/or training
Results orientation	Professionalism and/or reliability	Negotiation
Self-reflection and self-management	Sustainability	Teamwork

Table 9. Traceability of intra- and interpersonal skills from education to labor market.

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6. Conclusions

Despite there are different definitions for intra- and interpersonal skills' set, a general consensus about its main characteristics can be made: they are social abilities, individual attributes, and cognitive attitudes. They are also called as twenty-first century skills, essential skills, human skills, professional skills, and/or soft skills.

Intra- and interpersonal skills are currently essential for both individual careers and organizational success, being identified by many employers as the number one differentiator, regardless of the type of organization. Importance of intra- and interpersonal skills has increased more and more over last years among new employees.

The gap between skill levels that employers need from recent graduates and new employees versus skill development grade they own is growing. To decrease the contrast between supply and demand, the implementation of training programs throughout all educational stages is required, from high school to university.

Into a knowledge-based economy, with abundant unskilled human resources, it is time to train recent graduates with properly employable skills. It is necessary to emphasize that education should focus not only on core academic subject mastery, but also on intra- and interpersonal skills development.

Labor market demands that employees acquire and/or improve their intra- and interpersonal skills around three dimensions:

- Cognitive skills: being creative, communicating, focusing on results, learning actively, making decisions, resolving conflicts, solving problems, self-managing and self–reflecting, and thinking critically
- Individual skills: being competitive, entrepreneurial, ethic, integrous, professional, reliable and sensitive, empathizing, leading, motivating, promoting sustainability, and taking the initiative
- Social skills: attending to diversity, being persuasive, coordinating, cooperating, influencing, marketing, mentoring, negotiating serving customers, training, and working as a team

PM competencies approach can be used to develop and perfect intra- and interpersonal skills of employees, through formation programs that train how to be aware culturally and politically, be effective, integrous, professional, related, reliable and resourceful, build trust, coach, communicate, engage, influence, lead, make decisions, manage, motivate, negotiate, orientate to results, resolve conflicts, and work as a team.

Training practices of PM by competencies can be introduced in education. In fact, PM proposals are included on theoretical educational frameworks exposed (defining, designing and managing projects and setting goals, besides balancing, executing, evaluating, interacting, monitoring, organizing, planning, prioritizing, among other actions intrinsically related to leading projects).

In the context of Portugal, Spain, and Latin America countries, the theoretical frameworks that cover the different educational stages include most of the soft skills selected:

- During the preuniversity stage, DeSeCo Project by OECD tries to instill that students assert rights and duties, communicate, conduct plans and projects, construct alliances, cooperate, empathize, make decisions, negotiate, recognize merits, resolve conflicts, be self-aware, suggest alternatives, support others, and take responsibility, among other skills
- At the university stage, EHEA and ALFA Tuning Projects ensure that future graduates analyze, appreciate diversity, are competitive, be creative and critical, commit, communicate, lead, learn, make decisions, motivate, solve problems, synthesize, take initiative, and work as a team, among other skills

7. Future research

Once it has been proven that, from a theoretical point of view, most of the soft skills demanded by the labor market are present in education (including to direct and manage projects), it is mandatory to ask right now what is wrong. There are two nonexclusive possibilities:

- Learning and training of soft skills is not done or done weakly

(subordinating them to hard skills)

- Assessment of soft skills' performance is not done or done incorrectly

(avoiding their application's improvement)

To answers these questions, further research is needed:

- Launching a questionnaire in Portugal, Spain, and Latin American countries, directed to recent graduates and new employees, to check the importance given by the system to soft skills they have perceived during their education and contrast the importance they think soft skills are going to reach, in order to measure the gap between educational criticity and workplace impact
- Analyzing assessment methods and checking if they are adequate and effective, proposing improvements

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