United Nations
Educational, Scientific and
Cultural Organization

المركز الإقليمي للتخطيط التربوي
Regional Center for Educational Planning

# RESEARCH PAPER

Regional Center for Educational Planning

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Susan Kippels

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# Soft Skills in Education: The role of the curriculum, teachers, and assessments

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## Disclaimer

This research paper was commissioned by the UNESCO Regional Center for Educational Planning (RCEP) in Sharjah, United Arab Emirates. The paper falls under RCEP's second strategic objective, which is to "produce and disseminate knowledge in support of education policies to enable planning of educational systems." The views and opinions expressed in this paper are those of the authors and should not be attributed to RCEP.

## Executive Summary

When individuals possess soft skills, they are more equipped to succeed in life and participate in an increasingly complex "glocal, liquid and networked" work world (Bauman, 2003; Salvetti, La Rosa, Bertagni, 2015; Chamorro-Premuzic et al., 2010; Deloitte, 2018; EC, European Commission, 2010, 2011; Manpower Group, 2012, 2014; Morin, 1999). However, the definition of what constitutes « softs skills » is debated and they are referred to by a range of terms, such as « non-job specific skills » and « intangible personal qualities » (EC, 2011; UNESCO, 2013). While « soft skills » has multiple meanings, it tends to refer to various personal traits, habits, attitudes, or socio-emotional skills (EC, 2015), and there is general agreement that they are important.

With an increased need for soft skills, there has been a rise in research on broad topic of soft skills and increasing pressure on schools and especially universities to foster the development of these skills from early childhood. Puerta, Valerio, and Bernal (2016) report that more than 80% of the papers on postsecondary education in the Education Resources Information Center (or ERIC) data include the term « soft skills. »

The purpose of this paper is to explore what soft skills are and how education systems can ensure students are developing valuable soft skills. This paper presents the key elements of the definitions of soft skills as well as exploring the « skills gap » identified by many companies in terms of how students are prepared in education systems. It also explores the different approaches and methods used to teach soft skills, including integrating soft skills into the school curricula and supporting teachers. The paper concludes by offering the following recommendations for educational institutions and policymakers to strengthen soft skills development:

1. define « soft skills » within national education systems and curricula
2. ensure soft skills are targeted in curricula and teacher trainings
3. incorporate internships and apprenticeships into education models
4. integrate soft skills assessment from the early stages of educational planning
5. create safe spaces, build community relationships, and expand social networks to promote soft skills.

Each recommendation is explained in greater detail in the paper.

# 1. Introduction

Research has found that individuals who possess both hard and soft skills are more successful in life and work (Majid et al., 2012; Shultz, 2008; Wats & Wats, 2009). However, what exactly soft skills are is debated. Also, there is no consensus about which soft skills are the most essential or how to effectively incorporate them into learning (Chamorro-Premuzic et al., 2010).[1]

While some education systems and schools have integrated teaching soft skills into curricula, the development of these skills has traditionally been neglected (Schulz, 2008). In many European countries, soft skills are considered only in university curricula (Haselberger et al., 2012; Cinque et al., 2016), if at all. Several scholars argue that training in soft skills at university is too late (e.g., Laureta, 2018; Heckman & Kautz, 2012). Instead, soft skills need to be introduced early, in the first stage of education or even in early childhood. When soft skills are initiated at an early educational stage, they can continue to be developed and strengthened as an individual matures because, as Heckman and Kautz (2013) argue, "skills beget skills" (p. 453).[2]

There are various rationales behind why soft skills are important. Many researchers argue schools should teach soft skills in order to support the holistic development of individuals and strengthen their sense of citizenship (Nussbaum, 2010). According to the Nobel Prize winner James Heckman, "soft skills predict one's success in life," while having a high IQ and a high EQ are the magical combination that predicts success both in personal and professional life. To illustrate his point quantitatively, he described research that compares American high school graduates and General Educational Development (GED)[3] graduates. He explored whether those who completed GEDs were more likely to have sub-par social skills than high school graduates, and assessed if such traits were a factor in academic and career performance later in life (Heckman & Kautz, 2012). Research has found that educating students with a broad mix of skills, including soft skills, lays the foundation for future national prosperity, given that research has found a relationship between human capital and economic growth (Hanushek et al., 2015; Hanushek, Machin & Woessmann 2011).

1 Scholars have studied soft skills for decades and there are various research directions that propose methodologies to facilitate their development (Robles, 2012).

2 The equation affiliated with Heckman and Kautz (2013, p. 453) is: "The skills an individual has at time ($t$+1) are determined by the interaction of the skills developed in the previous period $t$, the investment made in the person in period $t$, and the child's family background."

3 The GED tests are a group of four subject tests, which, when passed, certify that the test taker has United States or Canadian high-school-level academic skills.

Linked to human capital development, soft skills benefit individuals entering the labor force and are associated with higher wages. An Australian study found that soft-skills-intensive occupations are predicted to account for two-thirds of all jobs by 2030 (Deloitte, 2017). Another study by Balcar (2016) found that soft skills are as useful as hard skills in terms of wage returns, and that wage returns for soft skills appear to be gender-neutral compared to returns for hard skills (where there are significant gender differences), arguing that soft skills should be a key focus of education systems.

Given there is widespread agreement on the value of soft skills, this paper seeks to better understand what soft skills are and how education systems can teach them to students. The next section of the paper explores the various meanings and aspects of soft skills that are relevant from early childhood through adulthood. The following section examines teaching and assessment methods related to soft skills. Next, challenges associated with incorporating soft skills in education systems are explored. The conclusion offers recommendations related to designing and implementing programs in the education sector for soft skills development.

# 2. Understanding soft skills

## 2.2 Defining and categorizing soft skills

As noted earlier, there are numerous definitions of soft skills. Many researchers have their own definitions. For example, according to Lippmann et al. (2015, p. 4), soft skills "refer to a broad set of skills, competencies, behaviours, attitudes, and personal qualities that enable people to effectively navigate their environment, work well with others, perform well, and achieve their goals." In contrast, according to Yorke (2006, p. 26), soft skills are "a mix of dispositions, understandings, attributes and practices."

Toulomakos (2020) conducted a literature review and found that the term "soft skills" generally falls into one of 10 categories, as shown in Table 1. These categories include, but are not limited to, elements ranging from qualities and values to other areas such as cognitive abilities or processes.

**Table 1**

**Categories of soft skills**

| *Categories* | *Examples* | *References* |
|---|---|---|
| Qualities and values | Adaptability, flexibility, responsibility, courtesy, integrity, professionalism, and effectiveness, and values such as trustworthiness and work ethic | Ballesteros-Sánchez et al., 2017; Robles, 2012; Touloumakos, 2011; Wats and Wats, 2009 |
| Volitions, predispositions, attitudes | Good attitude, willingness to learn, learning to support learning of other skills, being hardworking, working under pressure or uncertainty | Andrews and Higson, 2008; Cinque, 2018 Stasz, 2001; Stasz et al., 2007 |
| Methodological skills | Problem-solving, decision-making analytical thinking/thinking skills, creativity/innovation, manipulation of knowledge, critical judgment | Cimatti, 2016; Succi, 2019; Succi and Canovi, 2019; Thompson, 2019 |
| Leadership skills and management skills | Self-awareness, managing oneself/ coping skills | Ballesteros-Sánchez et al., 2017; Cimatti, 2016; Cinque, 2018; Crosbie, 2005; Lazarus, 2013; Thompson, 2019 |
| Interpersonal skills | Social skills, team skills, effective and productive interpersonal interactions | Bancino and Zevalkink, 2007; Kantrowitz, 2005; Succi and Canovi, 2019; Thompson, 2019 |
| Communication skills | Negotiation, conflict resolution, persuasion skills, and open-mindedness | Bancino and Zevalkink, 2007; Cinque, 2018; Majid et al., 2012; Mitchell et al., 2010; Robles, 2012; Stevenson and Starkweather, 2010; Succi and Canovi, 2019; Wats and Wats, 2009 |

| Categories | Examples | References |
|---|---|---|
| Articulation work | Orchestrating simultaneous interactions with people, information, and technology | Hampson et al., 2009; Hampson and Junor, 2005 |
| Emotional labor | Empathy, particularly for in-service jobs | Hochschild, 1983 |
| Aesthetics, professional appearance, and "lookism" | | Nickson et al., 2005; Robles, 2012; Warhurst et al., 2009 |
| Cognitive ability or processes | Ability to plan and achieve goals | Ballesteros-Sánchez et al., 2017; Cimatti, 2016; Thompson, 2019 |

*Source: Adapted from Toulomakos (2020, p. 4).*

In addition to the categories identified by Toulomakos (2020) in academic literature, soft skills are commonly referred to in institutional frameworks and reports by international organizations. Table 2 shows the language used to reflect soft skills in a range of international frameworks and reports, with some referring to them as "competencies" and others as "skills." In most European countries, the preferred term is "competence." While sometimes used as synonyms, the terms "skill" and "competence" can be differentiated. ESCO[4] (2019) states that "skill" typically refers to the use of methods or instruments in a particular setting and in relation to defined tasks. On the other hand, the term "competence" is broader and refers typically to the ability of a person who is facing new situations and unforeseen challenges to use and apply knowledge and skills in an independent and self-directed way (ESCO, 2022).

4 ESCO (European Skills, Competences, Qualifications and Occupations) is the European multilingual classification of skills, competences, qualifications, and occupations. ESCO is like a dictionary, describing, identifying, and classifying professional occupations and skills relevant for the EU labor market and education and training areas, and systematically showing the relationships between those occupations and skills. It is available in an online portal where its dataset of occupations and skills can be consulted and downloaded free of charge.

**Table 2**

**International organization frameworks related to soft skills**

| *Category* | *Institutions* |
|---|---|
| Generic competencies | Tuning Educational Structures (González & Wagenaar, 2008) |
| Key competencies | EC (2006; 2018), OECD (2003), UNESCO (2015a) |
| Life skills/Competencies | WHO (1993), UNICEF (2010), JRC LifeComp (Sala et al., 2020) |
| Transversal skills | UNESCO (2015), ESCO (2019) |
| Transferable skills | EC (2011), (Balcar, 2011) |
| 21st century skills | OECD (2009), Partnership for 21st Century Learning (2015), World Economic Forum (2015) |
| Soft skills for talent | Manpower Group, 2014 |
| Skills for social progress | OECD (2015) |
| Social and emotional skills | OECD (2018) |
| Competences for democratic culture | Council of Europe (2018) |

Table 2 also shows that when discussing soft skills, many international institutions use the term "21st-century skills" (Ananiadou & Claro, 2009; Partnership for 21st Century Learning, 2015; World Economic Forum, 2015). It also shows that the Organisation for Economic Co-operation and Development (OECD) tends to use the phrase "key competencies" (OECD, 2003) or, more recently, "skills for social progress" (OECD, 2015). Organizations often produce reports related to soft skills as they recognize the increasing need for soft skills in life and the workplace (see Box 1 for more on soft skills in the workforce).

**Box 1**

**The changing nature of work and growing demand for soft skills**

There is a general agreement that new technologies, such as robotics and artificial intelligence, are reshaping the world of life and work. Just as jobs are transforming, the demand for workers' skills is changing too (Arntz et al. 2016; Frey & Osborne, 2013; Arregui Pabollet et al., 2019; Lordan, 2018; Nedelkoska & Quintini, 2018). Soft skills are increasingly featured in market analyses and reports as workers will need to be able to adapt and work together to meet unknown future needs.

According to the World Economic Forum (2020), the skill groups that employers see as becoming more prominent in the approach to 2025 include critical thinking and analysis and problem-solving skills, as well as skills in self-management, such as active learning, resilience, stress tolerance, and flexibility. Similarly, a report on the future of work following COVID-19 by McKinsey Global Institute stated, "workers will need to learn more social and emotional skills, as well as technological skills, in order to move into occupations in higher wage brackets" (McKinsey, 2021, p. 18).

A study by the OECD (2019) looking at work in the future also predicts that workers equipped with cognitive and metacognitive skills (e.g., critical thinking), noncognitive skills (e.g., empathy, work readiness and collaboration), and digital skills will be a better fit in future work environments (OECD, 2019). Such forecasts reflect the current situation where workers are expected to earn more in occupations that require a combination of noncognitive skills and moderate or advanced technical skills (Arregui Pabollet et al., 2019). Research has found that having emotional intelligence and soft interpersonal skills can be a prediction of successful careers (Goleman, 1995; Goleman & Boyatzis, 2008).

Overall, soft skills are closely connected with employability today, particularly for young people entering the labor market, and they will continue to be so. Thus, soft skills need to be taught from the earliest years to support students' transition from education to the labor market.

As well as using different terminology to address topics related to soft skills, institutions have their own definition of the specific term "soft skills." Table 3 presents a comparison of the definitions provided by different international frameworks. There are differences across these institutions, with soft skills defined as "non-job specific skills" by the European Commission (EC) (2011) and "intangible personal qualities" by UNESCO (2013). For additional information on a soft skills taxonomy derived from the Modes Project (2009–12), see Appendix A.

**Table 3**

**Definitions of soft skills in different international frameworks**

| *European Commission, 2011, p. 10* | *UNESCO, 2013, p. 53* | *European Commission, 2015* |
|---|---|---|
| Non-job-specific skills that are related to an individual's ability to operate effectively in the workplace. | A set of intangible personal qualities, traits, attributes, habits, and attitudes that can be used in many different types of jobs. | Skills that cut across jobs and sectors and relate to personal competencies (confidence, discipline, self-management) and social competencies (teamwork, communication, emotional intelligence). |

# 3. Curricula, teaching and assessing soft skills

## 3.1 Rationales for including soft skills in curricula

Education systems are responsible for equipping students with the tools they need to flourish as well-rounded individuals and succeed in life, which includes soft skills. As noted earlier, soft skills are more commonly included in higher education curricula than at the early childhood or K–12 level. The inclusion of soft skills at higher education levels is valuable (see Box 2 for the case of soft skills in higher education in the Gulf Cooperation Council (GCC) states[5]) . However, research has found that that training in soft skills at university would be even more valuable if introduced earlier (e.g., Heckman & Kautz, 2012; Laureta, 2018).

5 The GCCw member states are Bahrain, Kuwait, Oman, Qatar, the Kingdom of Saudi Arabia, and the United Arab Emirates.

**Box 2.**

**Soft skills in higher education in the GCC countries**

Matu and Paik (2021) conducted a systematic literature review and analyzed 12 descriptive studies in GCC countries on soft skills development at the higher education level. The research found that if higher education in the GCC region placed an even greater emphasis on developing soft skills, students could expect to have additional benefits, such as greater academic success, stronger workplace performance, improved interpersonal relationships, and better health and overall well-being.

Heckman and Kautz (2012) found that investment in human capital development generally comes too late. They argue that it is not enough to retrain people who have lost their jobs, and that the development of soft skills should be introduced in early childhood, especially for children of disadvantaged families. Similarly, the OECD (2015) argues that skills acquired in early childhood are skills that contribute to both individual well-being and social progress. Since "skills beget skills," early interventions in social and emotional skills can play an important role in efficiently increasing skills and reducing inequalities in education and the labor market (Heckman & Kautz, 2012, p. 453).

There are various discourses behind why soft skills should be included in curricula. These have been examined from the global, national, and personal perspectives by UNESCO (2015b) and include economic, social, and humanity-related rationales, as shown in Table 4. Sometimes the drivers behind the integration of soft skills into education are a combination of these discourses and perspectives.

**Table 4**

**Rationale for the integration of soft skills in education curricula**

| | *Economic discourse* | *Social discourse* | *Humanity discourse* |
|---|---|---|---|
| ***Global perspective*** | Competitiveness | Social progress | Global citizenship |
| ***National perspective*** | GDP* growth | HDI** growth | National identity |
| ***Personal perspective*** | Employability | Community | "Holistic" formation |

*Source: Adapted from UNESCO, 2015b.*

* *GDP: Gross Domestic Product*

** *HDI: Human Development Index*

Economic discourses are a particularly powerful driver behind why education systems integrate soft skills in a curriculum, from both global and national perspectives. However, many researchers also rightly emphasize the social and humanity-related discourse in which education is seen as a vehicle for fostering several social, ethical, and moral attributes among students, such as national identity, respect for diversity, tolerance, and empathy (UNESCO, 2015b)

## 3.2 Teaching soft skills: contexts, approaches, and methods

Soft skills can be taught in a range of ways, and some schools and universities organize specific courses and activities to teach them. Other educational institutions incorporate soft skills into regular lessons. The specific approach to teaching soft skills is shaped by the theoretical background, the vision, and the purpose of the lesson and specific activity (Cinque, 2015).

Within formal education (see Box 3 for more about soft skills in non-formal and informal contexts), Yorke and Knight (2004) explore two main approaches (parallel and embedded) to fostering the development of soft skills within educational institutions. The parallel approach provides students with activities focused on the development of specific soft skills, in the form of a parallel offering to the program curriculum (workshops, seminars, research, laboratory activities, group work, project work, etc.). On the other hand, the embedded approach is based on the premise that there is no difference between the way disciplinary content and soft skills are taught. The basic assumption of this approach is that the development of soft skills cannot be separated from the processes of acquiring other knowledge or disciplinary competencies.

Parallel and embedded approaches to teaching soft skills are common. Table 5 outlines key characteristics of parallel and embedded approaches, including the planning, role of the organization, organizational impact, and assessment.

**Table 5: Characteristics of parallel and embedded approaches**

| | *Parallel approach* | *Embedded approach* |
|---|---|---|
| **Planning approach** | Sequential: skills are identified, and ad hoc activities are conducted. | Integrated: the learning setting is organized to allow students to learn in a simulated environment. |
| **Role of the institution** | Organizes educational activities focused on specific soft skills, which are offered together with coursework. The institution decides how to formalize certification in terms of course credits from time to time. | Supports educational innovation through faculty scientific communities that aim to support and legitimate the adoption of teaching strategies. |
| **Organizational impact** | High impact on formal procedures and low impact on organizational/ teaching culture. | Low impact on formal procedures and high impact on organizational/teaching culture. |
| **Assessment** | Qualitative and/or quantitative assessment with peer review, which plays a minor role. | Qualitative and/or quantitative assessment with peer review, which plays a major role. |

*Source: Melacarne, Orefice & Giampaolo, 2018, p. 183*

Educators who believe that soft skills are essential for applying what is learned in core academic subjects often view soft skills development as complementary to instruction in core academic subjects (Gaines & Mohammed, 2010). According to Gaines and Mohammed (2010, p. 3), these educators tend to praise schools that demonstrate a "balanced approach" because they produce graduates who "have both sound content knowledge and the ability to apply that knowledge successfully." Regardless of the embedded or integrated approach adopted, according to Wickson et al. (2006) it is crucial for learners to develop the ability "to fuse knowledge from different disciplines and engage with stakeholders in the process of generating knowledge" (p. 1052).

**Box 3.**

**Soft skills in nonformal and informal education**

In addition to the opportunities offered within formal education institutions, soft skills can be developed in nonformal and informal contexts (Cinque, 2014). Nonformal learning practices often involve systematic and deliberate, but less regulated pursuits that occur outside of educational structures. For example, soft skills can be developed in associations, dorms, through sports activities, etc. On the other hand, informal practices comprise aspects of knowledge and skill acquisition that are largely experiential. In this case, soft skills are developed through daily activities related to work, family, or leisure (Cedefop, European Centre for the Development of Vocational Training, 2019). Learning, in this case, is not organized or structured in terms of objectives, time, or learning support. Informal learning is in most cases unintentional from the learner's perspective.

Soft skills can be developed through different methods that actively engage students in their own learning. Teaching methods commonly adopted to develop soft skills are illustrated in Table 6.

**Table 6: Teaching methods and corresponding cluster**

| *Cluster* | *Methods* |
|---|---|
| One-to-one | • Mentoring<br>• Coaching<br>• Tutoring |
| Guided | • Discussion<br>• Debate<br>• Case study |
| Simulative | • Role-play<br>• Simulation<br>• Game-based learning/serious games |
| Collaborative | • Cooperative learning<br>• TBL (team-based learning)<br>• Brainstorming |
| Explorative | • Enquiry-based learning<br>• Problem-based learning<br>• Project-based learning |
| Metacognitive | • Questioning<br>• Debriefing<br>• Self-assessment |

*Source: Adapted from Ciappei & Cinque (2014). Each of these is described in greater detail in Appendix B.*

These methods can vary in terms of teachers' support versus students' autonomy. They range from personal guidance (coaching, tutoring) to group guidance (i.e., discussion, TBL), from structured techniques (debate, cooperative learning, etc.) to methods that involve solving open-ended problems.

Alongside a range of methods to teach soft skills, there are also various ways to assess them, which are explored next along with challenges associated with assessments.

## 3.3 Assessing soft skills

Inconsistent definitions and insufficient measurements of soft skills make them difficult to assess within education. Nonetheless, soft skills assessment tends to be most successful when it monitors progress and the results achieved through a formative assessment (Bennett, 2011; Binetti & Cinque, 2015; Scaratti et al., 2015; Cinque, 2016; Kyllonen, 2016). In formative assessments, the process followed related to the soft skills is important. This contrasts with summative assessments, which are often done at the end of a specified period of time, such as through an exam or test.

There are different tools to assess the acquisition and development of soft skills that might be measured as "observable behaviors" rather than "quantifiable knowledge." Assessment studies are produced by a wide range of disciplines (experimental pedagogy, developmental psychology, social psychology, sociology, organizational behavior studies, etc.). The different methods may range across teacher assessment, self-assessment, peer assessment, performance assessment, etc.

Measurement is important for assessing soft skills. However, soft skills tend to only be broadly defined among test developers, making any generalization beyond the specific construct unreliable. According to Kyllonen (2016), rating scales are widely used in noncognitive assessments, but methods for moderating responses to rating scales (e.g., anchor vignettes), forced-choice (ranking and preference) methods, situational assessment tests, and performance measures are also widely used.

Kyllonen (2016) created a constructs-by-methods taxonomy to indicate which particular methods have been used for soft skills assessment. He considered five categories of methods: self-ratings, others' ratings, situational judgment tests, interviews, and performance measures. Within each method, there are variants, as indicated in Table 7. See Appendix C for more information about each method and variant.

**Table 7: Typologies soft skills assessment**

| *Method* | *Variants* |
|---|---|
| Self-ratings | • Likert scale (i.e., rating scales)<br>• Forced choice<br>• Biographical data (biodata)<br>• Personal statements |
| Others' ratings | • Likert scale (i.e., rating scales)<br>• Forced choice<br>• Letter of recommendation |
| Situational judgement tests | • Text prompt<br>• Video/animated prompts<br>• Interview response |
| Interviews | • Face-to-face<br>• Video interview<br>• Role-play |
| Performance measures | • Test with multiple-choice<br>• Short answer<br>• Essay<br>• Interactive game |

*Source: Kyllonen (2016)*

Among the different methods, rating scales (e.g., Likert scales) are quite common. They are a general, all-purpose, and default methodology for measuring just about any soft skill, but they have limitations and biases, particularly when they are used for self-rating. An important limitation to self-ratings is that they are highly subject to response style and reference group effects and social desirability bias, and if there are incentives to do so, they are easy to fake.

Some of the most innovative and important advances in the past few years, and going forward into the future, are likely to be in the development of alternatives to rating scales for measuring soft skills. Letters of recommendation are certainly one of those alternatives, but they often do not "measure" soft skills, only support the evidence. Tests (or performance measures) are used for specific soft skills (particularly problem-solving, critical thinking, information technology, scientific, and communication skills), but in many of the other areas (e.g., teamwork, cultural skills, creativity, self-regulation skills) early research programs are developing tests.

There are also many constructs for which there seems to be no research regarding certain measurement approaches. Assessments represent one of several challenges related to incorporating soft skills in education systems, with additional, common challenges explored in the next section.

## 4. Common challenges

There are many areas to consider when incorporating soft skills into contemporary curricula and instruction, including potential challenges. Five common challenges, some which have already been noted, related to incorporating soft skills into education systems are explored below.

1. **There is a lack of consensus on how to define soft skills, and which soft skills should be included in education**

   Various institutions and academics label soft skills differently, and there is no single unifying term.[6] While there is general agreement that soft skills are important, there is no clear consensus about which soft skills are the most essential or how to effectively incorporate them into curricula, teaching, assessments, and other areas of education. This may factor into why education frameworks tend to not support or integrate soft skills and associated attributes (Kechagias, 2011).

2. **Soft skills must be adapted to the cultural context**

   It is important to ensure that soft skills are culturally appropriate and that the methods of incorporating them in education systems are not cut and paste in nature. There may be a broad or overarching understanding of the value of soft skills areas, such as verbal communication and critical thinking. However, the regional and cultural norms of an area or country impact which set of soft skills is most context appropriate. For example, teamwork in a Chinese context would look different than teamwork in a Mexican context.

6 This was explored in detail in section 2.2.

3. **There is no agreement on how to best incorporate soft skills into curricula and teaching**

How soft skills are taught to students is crucial to consider as there are countless ways to incorporate them into learning, including with embedded and parallel approaches. For example, in some situations, content can be embedded in classes that complement the curriculum so students can gain the required soft skills through engagement or team-related activities. However, this will not work in every situation and learning needs to be tailored.

4. **It is difficult to measure and assess soft skills**

Assessments regularly do not happen or mismeasure soft skills (Heckman & Kautz, 2012). However, a critical element of soft skills integration into education is measuring what students are learning (Bresciani, Gardner & Hickmott, 2010). It is important to know if students have acquired the targeted soft skills. See section 3.3 for more on assessing soft skills.

5. **Soft skills are especially challenging to support in online settings**

The COVID-19 pandemic has accelerated the use of online learning tools worldwide. Some argue new technologies and open educational resources (OERs) allow for a more interactive learning experience and are valuable instruments in placing the learner at the center of the teaching/learning process (Samaranayake, 2022). However, learning dynamics are different in person, and customized approaches are required to incorporate soft skills in online education

Despite these challenges, soft skills have gained increasing attention over the past two decades. Given their value and importance, they continue to require greater attention from education systems (Singh, 2018).

## 5. Conclusion and recommendations

Soft skills should be incorporated into education in a holistic way. This section offers general recommendations to support delivering soft skills and incorporating soft skills into education systems, universities, and schools, including in relation to curricula, teaching, and assessment, based the findings of this review. (Another area worth exploring when considering incorporating soft skills in education is the "Cs Framework applied to soft skills," and Appendix D contains more information.)

**1. Define soft skills in national education systems**

There are numerous definitions of soft skills and national education systems need to have a clear understanding of which soft skills are most important in their cultural context. It must be clear how soft skills will manifest and be conveyed in a learning environment. Without a shared understanding of soft skills, it is impossible to give them the focus and resources they require. Thus, ministries of education, schools, and universities need to have clear definitions of soft skills.

**2. Ensure soft skills are targeted in curricula and teacher trainings**

A deliberate effort to include soft skills in curricula and teacher trainings is recommended, alongside sharing innovative approaches, cultivating local ownership, and leveraging local champions to advocate for the inclusion of soft skills in curriculum reform. A review of policies, strategies, and initiatives aimed at promoting innovative approaches to incorporating soft skills can assist with this process. It is suggested that interactive pedagogies that provide youth with ample opportunities to engage their soft skills are considered and that approaches are adapted for online learning and in-person learning. Creating a soft skills framework may support these efforts.

**3. Incorporate internships and apprenticeships into education models**

Internships and job apprenticeships can help students develop soft skills relevant for both life and entering the world of work. Public and private entities could be approached by education systems to support these partnerships.

The combination of learning and working is considered to confer particular benefits on apprentices with regard to their value in the labor market. Internships and job apprenticeships are often required for formal qualifications (particularly in veterinary education) and apprentices acquire job/occupation-specific learning outcomes (including both theoretical and practical knowledge), plus transversal skills applicable across a range of occupations. In addition to veterinary education, internships are required in many other fields (medicine, teacher training, etc.).

4. **Plan to assess soft skills and incorporate measurement instruments appropriately**

There is no single model for how to best assess life skills within education. However, designing a measurement methodology before implementing curricula can help direct learning. Defining assessments can help ensure that the most appropriate method for assessing the targeted soft skill(s) will be used. This allows for of the use specifically designed assessment measures to measure specific outcomes, for example, this could be rubrics designed to measure oral communication (Bresciani, Zelna, & Anderson, 2004).

5. **Create safe spaces, build community relationships, and expand social networks to promote soft skills**

Ministries of education can partner with the private sector, community initiatives, and others to better understand what soft skills are required in the labor market and community. Once the soft skills are identified, specific initiatives can be created to develop and support fostering these skills in students. In Italy, since 2018, the Ministry of Education created a specific program to help secondary school students develop soft skills and to offer career guidance for career choices through a short period of experience in a company, in a university, or doing service-learning.[7] Different studies demonstrated the value of these experiences for students (Pignalberi, 2020; Tino & Fedeli, 2021). Further research (e.g., Malinin, 2018; Cinque, 2019) collected evidence about the usefulness of service-learning for the development and enhancement of soft skills, that is, that set of cognitive and metacognitive skills that help people to adapt to the context in which they interact, and manage personal, educational, and professional challenges. The evidence included students who participated in these experiences rating them useful for their academic and/or work future.

In the long term, soft skills are invaluable to individual development and future employment, as well as to national economies. Policymakers, researchers, and educators increasingly recognize that current education models are failing to meet the needs of society and the workforce, and that there is a need to ensure that soft skills are incorporated to into education models in a holistic manner.

7 These kind of paths are called PCTO (Percorsi per le competenze trasversali e l'orientamento) and are undertaken between the third and the fourth year of secondary school (when students are 15–17 years old), before they graduate.

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# Appendix A

## Skills taxonomy

The partners of the ModEs Project (Haselberger et al., 2012) produced the taxonomy presented in Table 6 (reported from Cinque, 2012). This specific selection of soft skills was developed through the administration of an online questionnaire to 500 companies operating in different sectors of human activity (from Spain, Italy, Slovenia, Latvia, and Malta). After the questionnaire, 35 experts from different European countries — all with academic or consultancy backgrounds — determined the relative importance of the skills required and their grouping, according to the affinity of the actions that can be undertaken to contribute to their development. For the skills clustering activity, the experts used the concept mapping methodology, and the result was a list of 22 skills divided into three main groups: personal, social, and content-reliant/methodological skills.

**Table A.1**

**Soft skill taxonomy from the Modes Project (2009–2012)**

| *Personal* | *Social* | *Methodological* |
|---|---|---|
| Learning skills | Communication | Customer/user orientation |
| Tolerance to stress | Teamwork | Continuous improvement |
| Professional ethics | Contact network | Adaptability to change |
| Self-awareness | Negotiation | Results orientation |
| Commitment | Conflict management | Analytical skills |
| Life balance | Leadership | Decision making |
| Creativity/innovation | Culture adaptability | Management skills |
| | | Research and information management |

*Adapted from Cinque (2014, p. 62)*

## Appendix B

## Methods for teaching soft skills

### Table B.1

**Methods for teaching soft skills and corresponding explanation**

| *Method & explanation* |
|---|
| **Mentoring** relates primarily to the identification and nurturing of potential for the whole person.<br>**Coaching** relates primarily to performance improvement (often over the short term) in a specific skills area.<br>**Tutoring** is narrower in scope—typically focusing on academic learning—and more short term in duration (Goodlad, 2013). |
| **Discussions** require that learners first examine their personal opinions, assumptions, or presumptions and then imagine alternatives to those assumptions.<br>**Debate** is a form of a formal contest of argumentation between two people or groups. In a debate, all the participants of the team get a fair opportunity to express their views on the particular topic and the winning side is the one that states more influencing and factual points.<br>The **case study** method is used to develop and train decision-making abilities. Case studies must be carefully planned, organized, and succinct in order to avoid making the scenario seem overwhelming. |
| **Role-playing** is a "dramatized case study." Members of a group act out roles related to an event, condition, or circumstance in role-playing exercises.<br>**Simulation** is a teaching method that tests students' knowledge and skills by placing them in scenarios where they must actively solve problems. Simulation-based learning provides a variety of opportunities to practice complex skills and use different types of scaffolding to facilitate effective learning.<br>**Game-based learning/Serious games** is a term used for digital games that are used for purposes other than pure entertainment. In addition to the obvious benefits, such as the ability to experience situations that are not possible in the real world due to safety, cost, or time constraints, serious games can also have positive effects on the development of a number of different skills. |

| *Method & explanation* |
| --- |
| **Cooperative learning** refers to students working in teams on an assignment or project under conditions in which certain criteria are satisfied, including that the team members be held individually accountable for the complete content of the assignment or project.<br>**Team-based learning** (TBL) is an increasingly popular form of collaborative learning. It consists of four practical elements: strategically formed, permanent teams; readiness assurance activities at the beginning of each unit to motivate, engage, and clarify; application activities in which teams must make discipline-based decisions; student peer evaluations to motivate accountability and high-performance teamwork.<br>**Brainstorming** is a group problem-solving technique in which all members of the group spontaneously contribute ideas. In brainstorming, teams of 5 to 10 members meet to generate ideas, usually following strict guidelines. |
| **Enquiry-based learning** (also spelt as inquiry-based learning) is a form of active learning that starts by posing questions, problems or scenarios.<br>**Problem-based learning** (PBL) is a student-centered educational approach, in which complex, real-world problems motivate students to discover connections between important concepts and in doing so acquire essential skills. These skills include teamwork, problem-solving, information retrieval and analysis, and communication.<br>**Project-based learning** is a teaching method in which students learn by actively engaging in real-world and personally meaningful projects. |
| With **questioning**, the student monitors and self-regulates their thinking and asks questions to track the learning process. The learner also asks questions that guide metacognitive action.<br>**Debriefing** can be used to clarify and help students identify their thinking process: completion activities help students develop an awareness of the strategies they used and apply them to other learning situations.<br>**Self-evaluation** can be done through individual conferences and checklists that focus on thinking processes. |

# Appendix C

## Methods of measuring soft skills

## Methods

### *Self-rating*

Self-rating is by far the most common way to measure noncognitive constructs. A common self-rating asks the respondent to rate themself on a 5-point rating scale (e.g., Likert-type scale) with respect to a construct, such as teamwork—for example, “Indicate your level of agreement with the following statement: "I work well with others."

An important limitation to self-ratings is that they are highly subject to response-style and reference group effects and social desirability bias, and if there are incentives to do so, they are easy to fake. A response-style effect is a construct-irrelevant response pattern, such as using only the endpoints (i.e., extreme response style) or the midpoint of the scale (i.e., middle response style), always answering with a positive response (i.e., acquiescence response style), or responding in a socially desirable fashion (i.e., socially desirable responding).

### *Rating by others*

Ratings of a target (e.g., an applicant, a worker, a student) by others can and often do take the form of a simple rating scale, such as the standard 5-point Likert-type scale. An example is ETS® Personal Potential Index (PPI) (Kyllonen, 2008). Evaluators rate graduate school applicants on six dimensions (knowledge and creativity, communication skills, teamwork, resilience, planning and organization, ethics and integrity), four items per dimension (e.g., “supports the effort of others,” “can overcome challenges and setbacks,” “works well in group settings”), and provide an overall rating.

### *Anchoring vignettes*

One promising method of addressing response styles is the use of anchoring vignettes to adjust or recode responses (King & Wand, 2007). Anchoring vignettes describe hypothetical persons or situations; several are typically written to describe persons (or situations) at various levels (e.g., high, medium, low) on the trait being evaluated. The respondent rates the vignettes using the same rating scale used for the self-rating

### *Situational judgment tests*

In a situational judgment test (SJT), an examinee is presented with a situation, such as a problem or conflict, and has to indicate how best to respond. Situations are typically described with words, but a video presentation of the situation is also possible. Responses are rating scales (e.g., "rate the following response to the situation on a 1 to 5 scale, with 1 being a very poor response to the situation, and 5 being a very good response to the situation"), or more commonly, multiple-choice (e.g., "select the best response to the situation" and, optionally, also "select the worst response to the situation").

### *Interviews*

Interviews are universally used in employment screening, as well as in education. There are many types of interviews, varying in their structure (structured vs. unstructured), who conducts them, and content (conventional vs. situational interviews). The general finding is that interviews are useful in predicting who will be successful in education and the workplace and who will not. Structured interviews, conducted using a script and where all candidates are asked the same questions, are generally a much better predictor of outcome than unstructured interviews.

### *Performance measures (noncognitive performance tests)*

The noncognitive performance measures of creativity and cooperative problem-solving are two more interesting choices. Despite the fact that there are many techniques to gauge creativity, an idea production or idea-fluency approach has been shown to be effective. Measures of idea generation typically predict performance on the vast array of tests that have been used as creativity measures (Carroll, 1993). For instance, the amount of pertinent and nonredundant ideas that can be expressed in a brief amount of time (e.g., two minutes) in response to a question like "What can you build of value using mainly chewing gum?" (Seelig, 2012) can be used to measure idea production.

The effectiveness of a team (or individuals within a team) in addressing an issue in a group environment is referred to as collaborative problem-solving. Individual competence was not a good predictor of team skill, according to research by Woolley, Chabris, Pentland, Hashmi, and Malone (2010), but noncognitive skills—measured by things like emotional intelligence and turn-taking—were. Collaborative problem-solving is a component of the PISA 2015 assessment, and more research projects are being based on it.

## Variants

### *Rating scales*

Rating scales (e.g., Likert scales) are quite common measurement methods. Rating scales are a general, all-purpose, and default methodology for measuring just about any soft skill or noncognitive construct. Nevertheless, rating scales have their limitations, and some of the most innovative and important advances in the past few years have been, and are likely to be in the future, in the development of alternatives to rating scales in measuring noncognitive constructs.

Particularly in self-ratings, there is a high risk that they might be subject to response-style and reference group effects, and social desirability bias, and if there are incentives to do so, they are easy to fake. A response-style effect is a construct-irrelevant response pattern, such as using only the endpoints (i.e., extreme response style) or the midpoint of the scale (i.e., middle response style), always answering with a positive response (i.e., acquiescence response style), or responding in a socially desirable fashion (i.e., socially desirable responding).

### *Forced choice*

With rating scales, it is often obvious to an examinee what the best response is if the goal is a high score to get the job or get accepted into the program. The best response is to "strongly agree" with any statement that reflects a quality that an employer or school might value, such as "I am generally trusting," "I am ingenious, a deep thinker," or "I am a reliable worker", and to "strongly disagree" with any statements that an employer or school might use to screen out candidates, such as "I am depressed, blue," "I am lazy," or "I tend to find fault with others." This is known as the faking problem in personality assessment (Ziegler, MacCann & Roberts, 2011).

The forced-choice response format was designed to address the faking problem. The forced-choice (or preference or ranking) format asks respondents to choose between two (or more) statements as to which one better describes them. Statements can be matched on desirable qualities, such as "I am generally trusting" versus "I am a reliable worker." Then it is much less clear to respondents which choice will be looked upon more favorably by the hiring manager or admissions director, and consequently, it is more difficult to fake a forced-choice formatted question.

### *Biodata and personal statements*

Biodata (biographical data) refers to resume-type data, either free-form or gathered through multiple-choice questions. Baird's (1985) documented accomplishments survey was designed to assess students' experiences for use in graduate admissions. The survey asked students to indicate whether they had done activities such as "built scientific equipment," "received a prize or award for a scientific paper or project," "been appointed to one or more offices in an organization," and so on. Schmitt (2012) describes the development of a biodata survey to supplement a situational judgment test for use in college admissions. An example item is "The number of high school clubs and organized activities (such as band, sports, newspapers, etc.) in which I took a leadership role was: 4 or more, 3, 2, 1, I did not take a leadership role."

Personal statements and letters of introduction are also used for purposes similar to self-ratings and can be considered a form of biodata. Little systematic research has been done on personal statements (although see Santelices et al., 2011), but there may be opportunities to evaluate them more thoroughly with the use of automated scoring or natural language processing (NLP) methods (Heilman et al., 2014).

### *Role-plays*

A role-play interview is an interview format in which a potential employer presents a candidate with a scenario that they then act out. In most cases, the role-play interview simulates a situation the candidate is likely to encounter in the role for which they're applying. Employers like to use this method of interviewing for certain roles because it gives candidates the opportunity to demonstrate their skills and the employer a chance to see how the candidate might react to a situation in real time.

## Appendix D

## Cs framework for soft skills

Building on the "Cs framework" developed by OECD (2018) under the project Innovative Pedagogies for Powerful Learning (IPPL), five main elements are presented here to support a unified vision of soft skills and competencies. This vision is based on the "combinations" of different pedagogical approaches, on the most effective pedagogies to facilitate learning, on the significance of contexts (learning is always "situated"), on the concept of "connoisseurship" that includes the idea of the expert application of a certain pedagogy to foster soft skill development, on the change generated by the use of new pedagogies.

In Table D.1, the main elements and their application to soft skills are described.

**Table D.1**

**The 5 Cs framework applied to soft skills**

| *Elements* | *Focus* | *Application to soft skills* |
|---|---|---|
| ***Combinations*** | Pedagogical approaches | A systematic combination of many pedagogies makes up a pedagogical strategy. The combination of these pedagogies may be as innovative as any particular techniques or procedures. Instead of always being broken down into disaggregated practices and episodes, innovative approaches to teaching and acquiring soft skills employ such pedagogical combinations in a systematic manner that enables them to be understood holistically. |
| ***Content*** | Pedagogies for what? | Students and teachers do not learn and teach in a vacuum: they learn and teach something. They simultaneously strengthen their hard and soft talents while doing this. Approaches that are frequently referred to as "innovative" typically ask questions like what learning is for, what is worth knowing, and which pedagogies are most effective to facilitate such learning. |

| *Elements* | *Focus* | *Application to soft skills* |
|---|---|---|
| ***Context*** | Context matters | The significance of setting and how it affects the instruction of soft skills is widely acknowledged. The influence of digital media, the impact of various sociocultural backgrounds, and the function of values, including religion, are some of the most important contextual elements. |
| ***Connoisseurship*** | Expert application | The concept of "connoisseurship" concerns the idea of helping to comprehend the circumstances and meta-principles behind the feature of the project title « for powerful learning », which is captured by the concept of « connoisseurship, » i.e. the expert application of a certain pedagogy. This is especially true for soft skills, since teachers may be better able to teach these skills using the right pedagogies if they are aware of how important it is to develop and train these talents. A significant research synthesis activity that should be carried out on a regular basis in this area is the gathering of evidence pertaining to expert application. |
| ***Change*** | Embedding innovative pedagogies | In the design process of curricula that embed soft skills, we can ask what is needed within schools and other learning environments and the role played by networks and learning communities. We can ask about the learning, routines, conditions, catalysts, and incentives that promote pedagogical innovation. |

*Source: Adapted from OECD (2018)*

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