



Soft skills and learning methods for 21st-century project management: a review

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Abstract:

This article addresses a prominent gap in the literature by investigating the crucial soft skills required by project management students, graduates, and new practitioners entering the contemporary workforce. The literature review study adopts a concept-centric approach to examine the essential soft skills and effective learning methods for new project managers in the 21st century. Five essential 21st-century project management soft skills (communication, leadership, interpersonal, teamwork and emotional intelligence) were identified, along with three learning methods (experiential, active and reflective) that can be used to develop them. The implications of this research extend to project management students, graduates, and educators alike, emphasising the importance of nurturing the identified soft skills. As the project management domain evolves, the findings highlight the need for an education that prioritises hands-on learning and reflective practices, enabling emerging project managers to excel in their roles and drive project success.

Keywords:

soft skills; learning methods; project management; education; competencies.

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1. Introduction

Following the COVID-19 pandemic, organisations are encountering difficulties adapting to a rapidly evolving landscape characterised by heightened competition, interconnectedness, and diversity as they strive to regain the momentum witnessed before the outbreak [1]. This context has added momentum to a project-oriented trend (coined projectification) that has increased the importance of projects and project management [2, 3]. Project management (PM) is necessary for competitive advantage and success [4]. Even though projectification is increasing in organisations, projects continue to fail [5]. For this reason, organisations and researchers continue to focus on investigating and identifying the sources of project success [5, 6].

A substantial volume of literature indicates that project management competencies significantly influence project success [7]. Project management competencies are a popular topic in the literature, as practitioners can easily relate to and understand the implications of this topic in their work environment [7]. This interest is not going away, as is evident by the worldwide demand for project management roles and certifications [8]. The certifications are usually based on a competency standard such as the Project Management Institute's [9] "Project management competency development framework" or the Association for Project Management's [10] "APM competence framework", amongst others. These standards and the sustained focus on this topic in the literature suggest an extensive but fragmented list of competencies [5] with different levels of importance depending on which industry and project type one is interested in [7].

Navigating the vast array of project management competencies can be daunting for project managers or team members. As such, it becomes crucial to identify the most vital competencies for project management students and graduates as they enter the workforce [11]. The project management-oriented labour force is expected to grow by 33% or nearly 22 million new jobs by 2027 [9]. It is important to create this awareness by identifying the important PM soft skills graduates require. In both theory and practice, it has become evident that relying solely on technical project management competencies is no longer enough to ensure project success. This realisation has increased interest among organisations and project practitioners in soft/transferable skills.

Various terms are used to describe soft skills, but they all emphasise the importance of human interaction and social dynamics in various settings, including project management. Such soft skills include effective communication, commitment, leadership, teamwork, negotiation, conflict resolution, and fostering positive relationships [4]. These skills are critical for navigating interpersonal interactions and achieving success in professional settings. Moreover, employers seek graduates with strong soft skills, such as working well in teams, dealing with interpersonal conflict, and solving complex problems [12]. A lack of self-awareness results in new graduates lacking the soft skills organisations seek [7]. Furthermore, it is crucial to recognise that time management and scope management skills include a blend of technical and soft skills. While they entail technical aspects such as scheduling and defining project boundaries, they also require effective interpersonal interaction and communication. Therefore, they can be deemed essential soft skills for successful project management. For instance, the International Association of Project Managers [54] categorises time management as a soft skill, and Millholan [55] similarly places time management under interpersonal skills. Ultimately, the effectiveness of a project might be compromised if certain competencies of the project manager are either absent or underutilised [56].

Over two decades ago, studies conducted by Jaafari [13] highlighted a distinct disparity between project management education and its practical application in real-world scenarios. Remarkably, the disparity continues to persist [14, 15]. To bridge the gap effectively, it is imperative to review and align project management education and training in both industry and institutes of higher learning [7]. Identifying the essential soft skills that graduates need for 21st-century projects is a crucial first step. However, determining the most effective learning methods for imparting these soft skills to new project entrants is equally vital. By focusing on both aspects, comprehensive and targeted approaches can be developed to equip future project managers with the necessary skills and knowledge to thrive in the modern project management landscape. Project management in a hypercompetitive and globalised world requires a range of competencies and approaches; therefore, education should at least ensure that essential PM competencies are in place

[16]. To foster the development of essential soft skills required by 21st-century project managers, it is imperative for pertinent PM stakeholders to embrace appropriate resources, strategies, and methods in PM education and training.

The intention is to fill the identified gap by focusing on project management students, graduates and new project managers. In this vein, the soft skills new project managers require to enter the workforce effectively should be identified, along with the methods to learn those skills in the current digital age. Therefore, this review will focus on the newer generations currently entering the project management workforce: Generation Y (born between 1981 and 1996) and Generation Z (1997 to 2012). Accordingly, this review explores what soft skills are essential for modern projects. Furthermore, it explores what learning methods and techniques are most appropriate for developing these project management soft skills. We will specifically address the following research questions (RQ):

RQ 1. What soft skills are essential for project management students and/or new graduates entering the 21st-century workforce?

RQ 2. What learning methods can be used to develop the identified project management soft skills?

The responses to these questions facilitate an examination of gaps and deficiencies within the literature, thereby enabling a critical evaluation of project management education and training. Furthermore, the responses will allow for the identification and elucidation of relevant considerations in order to enhance the aforementioned areas of study. This review paper makes a theoretical contribution by highlighting the soft skills that graduate project managers require to be effective in contemporary projects. In addition, it outlines how graduate project managers can acquire or develop these skills in educational settings. The following sections present the research method, results, and discussion. Finally, we conclude by outlining the study's limitations and providing avenues for further research.

2. Research method

Systematic reviews are considered the gold standard among reviews and are valuable for identifying, collecting, evaluating, synthesising and critically analysing research literature to answer predetermined research questions [17, 18]. In systematic reviews, data that fits pre-specified inclusion criteria are used to answer the research questions, and the synthesis is typically in a narrative format [17, 19]. Consequently, the inclusion and exclusion criteria (see Table 1) were determined to ensure that relevant literature was shortlisted. In light of the influx of Generation Y and Z individuals entering the project management workforce, it was decided only to include papers from 2010 to 2021 to ensure articles about 21st-century project management students or new graduates are included in this review. In addition, since project management is a multi-disciplinary field, any industry requiring project management was included in this review.

Table 1. Inclusion and exclusion criteria

	Inclusion criteria	Exclusion criteria
Topic	Soft skills required for project management; soft skills learning and teaching in project management	Technical project management skills; hard skills learning and teaching in project management
Publication	Full-text and peer-reviewed journal articles and conference papers	Book chapters, editorials and letters
Date	2010-2021	Before 2010
Language	English	Others
Population	Project management students or graduates (sample population born after 1980). Project managers with less than five years experience by 2000.	Sample population born before 1980. Project managers with five+ years experience by 2000.

Five literature sources [ScienceDirect, Web of Science, ERIC (EBSCOhost), IEEE and Google Scholar] were searched using relevant keywords relating to the research questions. For example, "project management", "soft skills",

“generation z”, “generation y”, “21st century”, “competencies”, “learning”, and “methods”. These short-tail keywords were combined using Boolean operators to form long-tail keywords. For example, “project management AND soft skills” and “learning project management AND soft skills AND generation z”. The keywords were combined to form a list of nine search terms (“project management” AND soft skills; “graduate “project manager” soft skills; student AND “project management” AND 21st century; new AND “project manager” AND competencies; 21st century AND “project management” AND soft skills; “project management” AND generation difference AND soft skills; learning AND “project management” AND soft skills; “project management” AND learning OR methods AND soft skills; and “project management” AND 21st century AND learning). These search terms helped determine what soft skills are essential for project management students or new graduates and what learning methods can develop those skills. As such, articles relating to project management soft skills are included, yet soft skills development in other fields is excluded.

The literature was screened based on the title, abstract, methodology and result sections or equivalent. Relevant articles were identified in three stages, first by their titles, second by their abstract, and finally, screened based on the full text. An adaptation of the PRISMA flow diagram [20] was used to record key metrics of the screening and selection process (see Figure 1).

The quality of each article was determined by its ability to answer the research questions (relevance) and how the study was designed, conducted, and reported (rigour). The method and results sections of the articles were examined closely for relevance and meaningful answers to the research questions. Finally, 29 articles (24 journal articles and 5 conference papers) were shortlisted for analysis.

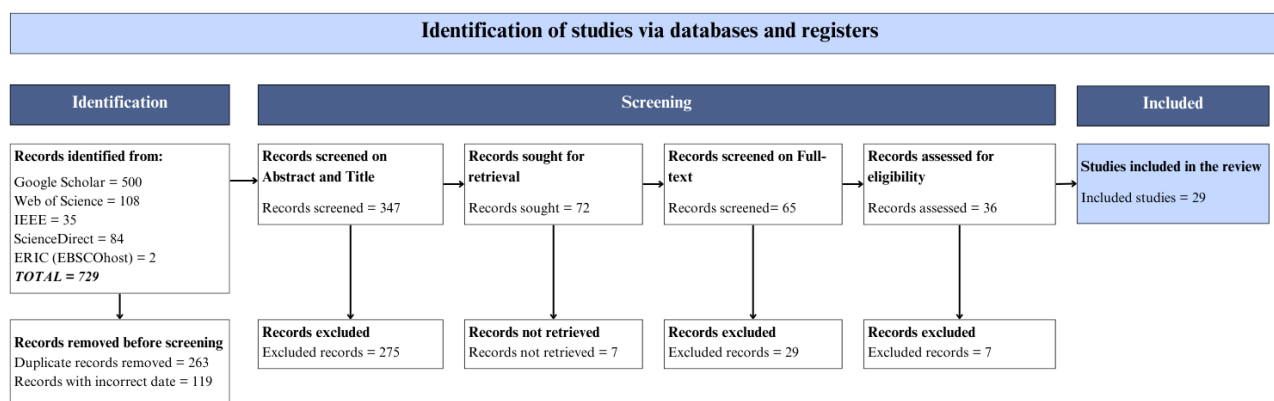


Fig. 1. Screening and selection PRISMA flow diagram

Concepts were generated during the data extraction phase by independently coding prevalent themes in each study. Next, the main concepts from the articles were clustered into two concept matrices, based on the code groups, first to identify the project management soft skills and, secondly, the methods to learn the project management soft skills. Finally, the findings of the studies were categorised based on their relevance to answering the research questions. The next section outlines the literature review findings using a concept-centric approach.

3. Results

The two main categories of the literature review results are *project management soft skills* and *soft skills learning methods*. The categories provide insight into answering the research questions. Based on the results obtained from the concept matrices, the concepts in each category are reported in decreasing order of study mentions.

3.1 Project management soft skills

As illustrated in Figure 2, eighteen project management soft skills were identified from the shortlisted literature. The most prominent soft skills mentioned by more than 50% of the shortlisted literature include communication, leadership, interpersonal skills, and teamwork. However, of all the soft skills identified, communication skills were mentioned the most, with 76% of the articles including communication as an essential project management soft skill.

The fifth soft skill, emotional intelligence, relates to other soft skills such as empathy, self-management, conflict management and interpersonal skills, as discussed by Zhu et al. [21] and Magano et al. [22]. The thirteen remaining soft skills, excluding the abovementioned skills, were mentioned by less than 30% of the literature. However, these soft skills are often cited as part of, or reliant on, the five most prominent soft skills mentioned above. Hence, while our main focus is on the five primary soft skills, the other soft skills have been woven into the discussion, and their relevance is outlined in the following subsections.

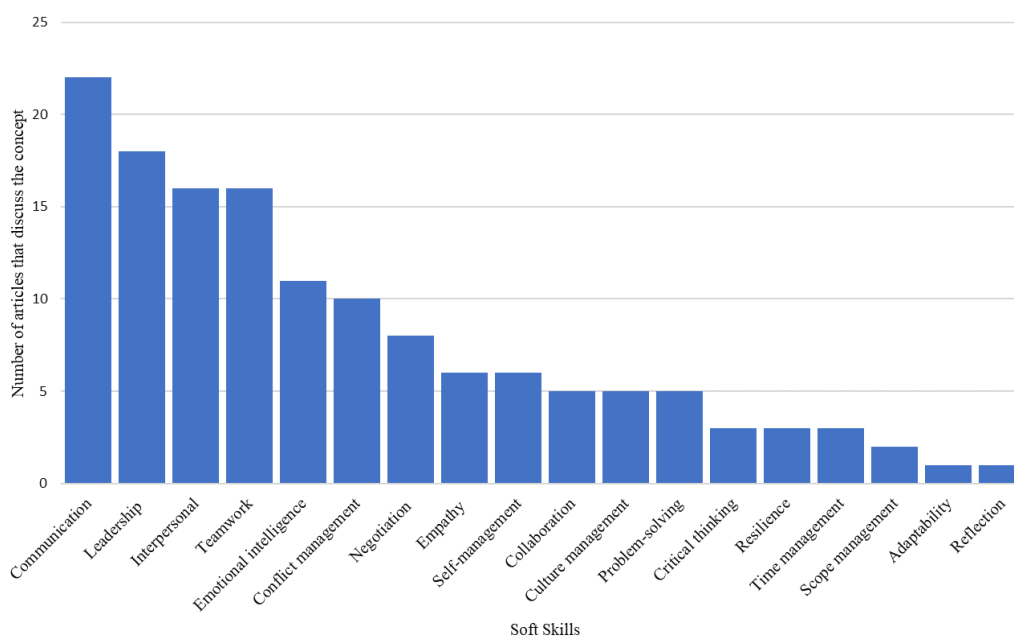


Fig. 2. Soft skills identified in the literature review

3.1.1 Communication skills

Communication, in the context of project management, is multi-faceted and includes oral, written, informal, formal, internal (within the project), external (other stakeholders), vertical and horizontal [4]. Effective communication is the process of exchanging accurate and appropriate information with team members and stakeholders using suitable methods [23] to express one's opinion and listen to others [24]. Project managers require communication skills to meet the information management demands of team members and various stakeholders [25]. Industry 4.0 project management soft skills are significantly transformed, mainly by promoting new ways of communicating and interacting with stakeholders and team members [26]. Therefore, students need to communicate effectively, utilising technology, to meet the needs of the 21st-century job market [12, 26, 27]. With the advent of new communication technologies, project management students can benefit significantly by developing their communication skills, especially in digital formats such as writing reports and e-mails [12].

Using the correct terminology or “project management language” is necessary for project managers to communicate their intent effectively to team members and stakeholders [28]. Therefore, project management course providers must embed the language of project management into the course to better comprehend its meaning in practice. However, Magano et al. [7] found communication, organisation and team spirit to be strengths of Generation Z students. These strengths also have an impact on teamwork and group interaction. These results are promising for project management since practitioners find communication to be one of the essential soft skills to possess [7, 29]. Moreover, effective communication skills are required for group interactions to be successful [7, 29] by encouraging teamwork, avoiding mistakes and reducing non-productive efforts [4]. Group interactions may include dealing with conflicts, different opinions, team member participation and the division of work between members. Therefore, communication skills are required in many project contexts, along with other important soft skills such as leadership, negotiation, conflict management and teamwork [4].

Communication skills help develop interpersonal relationships since talking to team members informally can help the project manager uncover their feelings. The project manager must also use active listening skills to communicate effectively [30]. In the study by Musa et al. [12], 86.2% of students indicated that their communication abilities were enhanced by focusing on active listening skills when interacting with group members. Similarly, Alvarenga et al. [4] found that practising project managers believe that communication is an essential soft skill for project success and rank it as the most important soft skill to possess. Tian [31] also found that communication is the second most important soft skill project managers can have in the 21st century, followed by verbal skills. In contrast, a study by Connolly and Reinicke [32] found that only 66.7% of project management students believed that effective communication was essential to their career and ranked it as the fourth most important soft skill. Ballesteros-Sanchez et al. [33] found that the communication competency gap between project managers and students is 8%, which is significant. Ramazani and Jergeas [34] also found that project management graduates lack the communication competencies to enter the workforce. These studies emphasise the need to improve student communication skills to succeed in the project environment. However, Luřaş et al. [35] found that project management certifications are more valued in the hiring process than communication skills.

3.1.2. Leadership skills

Leadership skill is among the top three project manager competencies perceived by practising project managers for the successful delivery of projects [4]. Liikamaa [24] found that leadership competency was evaluated as the highest among practising project managers. This self-assessment dealt with the project manager’s ability to act reasonably towards others and motivate the team.

Leadership comprises a set of soft skills that cannot be learned through formal methods [36]. Instead, leadership is developed over time with experience. Project leadership is the act of motivating, inspiring and guiding project team members and stakeholders. The goal of leadership is to manage and deal with issues effectively to achieve the project objectives [23]. A project manager’s leadership skills are a critical factor affecting project performance [37], and leadership is the most vital soft skill for project management [31].

Leaders apply interpersonal understanding (empathy) principles to better understand team members’ needs and take practical actions, leading the team to achieve the project objectives [37]. Therefore, leadership is closely related to other soft skills such as interpersonal relationships, negotiation and teamwork. In particular, project managers should lead by example, display appropriate levels of self-confidence and know when not to act authoritatively to lead others effectively [30]. According to Shelley [28], decision-making experience and social interactions are required to develop leadership skills. In a study by Zhang et al. [37], project managers in China perceived teamwork and leadership as more critical to a project’s success than stakeholder management and social awareness. Therefore, future project managers must have diverse skill sets. It is also expected that communication, leadership, and technology skills will increase in importance to deliver projects successfully in the 21st century [27].

Similar to communication, Ballesteros-Sánchez et al. [23] found a significant gap (8.7%) between practising project managers and students regarding team leadership. Both Magano et al. [7] and Ramazani and Jergeas [34] found that leadership is a weakness for Generation Z since students had difficulties assigning team roles, delegating tasks and

managing responsibilities. However, the younger generation's apparent lack of leadership skills may be remedied by reevaluating the project management education system, mentoring, practice monitoring, and collegial support [34].

3.1.3. Interpersonal skills

Interpersonal understanding and relationship management are two facets of interpersonal relationships. Interpersonal understanding is closely related to empathy since it is the willingness to understand others. Interpersonal understanding is the basis for building interpersonal skills since understanding others can build group trust and enable a project manager to work with stakeholders from different backgrounds. Leadership is also closely related to interpersonal understanding since leadership entails understanding others first and treating each team member with consideration and respect [37]. Relationship management refers to a project manager's ability to deal with personal relationships in the project environment between team members and stakeholders [37]. Furthermore, social awareness is another dimension of interpersonal relationships. Social awareness is the project manager's ability to read situations and gauge how others feel.

Therefore, interpersonal skills are the project manager's ability to effectively communicate with team members and stakeholders [38] and build meaningful relationships. In the study by Connolly and Reinicke [32], students ranked interpersonal skills as the second most important soft skill for their careers. Similarly, practitioners perceived interpersonal skills as the second most important soft skill [38]. Alvarenga et al. [4] state that teamwork, perseverance and flexibility form part of the interpersonal relationships skill set.

Project management students need to acquire interpersonal skills to meet the job market requirements in the 21st century [12]. In addition, Zhang et al. [37] found that personal relationships, called *Guanxi* in China, are a vital competency project managers require in the Chinese context. However, interpersonal skills are influenced by the time available for team members and the project manager to interact [31]. Therefore, interpersonal conversational skills are needed in the 21st century since shorter, high-paced meetings are an emerging trend [31]. Fisher [30] mentioned that project managers must acquire insight into their team and stakeholders' feelings, beliefs, and values. Through authentic behaviour, project managers can develop greater interpersonal relationship skills, which benefit other skills such as negotiation, conflict management, leadership and culture management skills.

3.1.4 Teamwork skills

Alvarenga et al. [4] identified teamwork as one of the 28 most important soft skills for project managers. Tahir [39] found that team-building is among the three most influential skills required for project success. Teamwork and cooperation are fundamental project management skills that are necessary to work and cooperate with team members and other stakeholders [37]. Managing team dynamics is a significant challenge for project managers in the 21st century [27]. Project managers face multiple challenges in managing teamwork, particularly in virtual teams. Effective teamwork management is a fundamental skill in project management, requiring the ability to motivate and guide the project team while staying focused on the project objectives [26]. This skill is essential for successful project outcomes and highlights the importance of developing teamwork expertise for project managers.

Team involvement is an inherent characteristic of project work [7]. Magano et al. [7] and Silva et al. [40] found that Generation Z displays high levels of agreeableness, significantly impacting their empathy and sensitivity to emotions. These traits are closely linked to project management soft skills such as teamwork and team-building [22] and can be improved with appropriate training and counselling [39].

The study by Connolly and Reinicke [32] showed that 77.8% of project management students felt that team-building skills are one of their career's most important soft skills and ranked it third after critical thinking and interpersonal skills. 89.3% of students indicated that effective teamwork contributed to successfully completing a 12-week project-based learning process [12]. However, the study conducted by Ramazani and Jergeas [34] shows that project management students do not have the necessary communication and teamwork skills required by industry. Therefore, there is a disconnect between what the industry requires and what traditional education systems provide regarding teamwork skills [7].

3.1.5 Emotional intelligence skills

Emotional intelligence is the ability to understand and manage the emotions of others as well as your own emotions in the project environment. Borg and Scott-Young [41] state that emotional intelligence is the ability to use this emotional awareness to manage relationships and the behaviour of stakeholders. By applying self-management, social awareness and relationship management, project managers can become more aware of their own and others' emotions in the project environment [42].

Zhang et al. [37] state that the emotional intelligence of a project manager includes both emotional competencies and social intelligence. Research found that students who display traits such as extraversion, agreeableness and high levels of consciousness tend to have higher degrees of emotional intelligence [22, 40]. In addition, a positive correlation between emotional intelligence and agreeableness exists [7]. This association may foster other soft skills like teamwork and interpersonal relationships.

Project managers require emotional intelligence to control their own emotions, as well as those of stakeholders and team members, in such a way as to avoid irrational behaviour and reduce conflict. Therefore, conflict management skills are closely related to emotional intelligence since the project manager can align stakeholder interests with the project goal by managing conflict and the associated emotions [37]. Project managers require adequate stress-handling skills, as stress can cause conflict in a project environment. A study by Ballesteros-Sanchez et al. [33] found that conflict management is the most significant soft skills gap between practising project managers and students.

However, it was found that with higher levels of project complexity, the impact of the project manager's emotional intelligence on project commitment is reduced [21]. With increased project complexity, the project manager bears additional pressure from stakeholders and team members. Once the emotional resources of a project manager with high emotional intelligence are depleted, they may engage in withdrawal or evasion to avoid conflict and project commitment [21]. They also found that a project manager's emotional intelligence positively affects project performance and commitment. By being aware of emotions, the project manager may also affect the stakeholder's attitudes towards a project. Emotional intelligence contributes towards 70% to 80% of project management success [25]. Although emotional intelligence is an intrinsic characteristic of an individual, Magano et al. [7] state that it can be developed through adequate experience and training. In addition, Magano et al. [7] found that Generation Z project managers have a high degree of resilience and a medium degree of conscientiousness, which presents a significant positive correlation to emotional intelligence.

3.2 Learning methods for soft skills

Project managers are required to display a mixture of technical management skills, leadership and interpersonal competencies [31]. Therefore, project management educational methods and programs should equip project managers with the skills to enter the 21st-century workforce [31].

Generation Z is often described as an individualistic generation reluctant to participate in teamwork [40]. However, in the 21st century, teams are becoming more common, and the need for good teamwork is imperative. Therefore, project management teaching methods should promote social interaction and communication by embedding teamwork in educational activities [40]. Ballesteros-Sanchez et al. [33] found a significant gap between students and practising project managers in terms of conflict management, emotional management, leadership and communication competencies. There is a need to overcome this gap in their soft skills by utilising educational approaches that motivate, engage and take advantage of the younger generation's ability to use technology [22].

There are various educational approaches to overcome the soft skills gap between practising project managers and students. Some of these educational approaches focus on active learning and experiential learning [40], while others focus on reflective learning to retain or enhance the learner's understanding of soft skills. Six soft skills learning methods (see Figure 3) were identified, which are discussed under the three main concepts (experiential, active and reflective learning) in the following subsections. The remaining approaches (project-based, game-based, and role-play learning) form part of these three main methods. For example, experiential learning includes project-based learning and game-based learning, and active learning includes role-play learning.

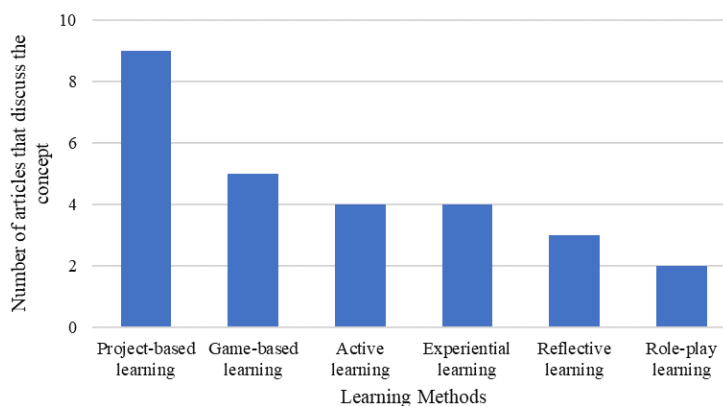


Fig. 3. Project management soft skills' learning methods

3.2.1 Experiential learning

It is imperative to enhance project management teaching methods to enable Generation Z students to smoothly transition from higher education institutions to the workforce and equip them with the essential skills for the 21st-century project environment [7].

Teaching methods such as hands-on projects, computer simulation, role-playing and project-based learning approaches are more suited to Generation Z's traits [7]. Experiential learning is the simulation of real-life company environments to enhance the students' ability to communicate and collaborate in an actual project, which is not always possible through traditional teaching methods [43]. Experiential learning engages the learners through project tasks such as leading, scheduling, stakeholder management, and communication.

Project-based learning (PjBL) motivates individuals to partake in activities such as teamwork, social interactions, team creativity and alternative forms of verbal and non-verbal communication, such as presentations and body language [22, 40]. In the study by Connolly and Reinicke [32], students who completed the course reported higher degrees of emotional intelligence, critical thinking and communication skills. Furthermore, de los Rios-Carmenado et al. [44] found that most students who participated in PjBL activities developed teamwork, creativity, leadership, and negotiation skills. Magano et al. [22] found that PjBL is an effective method for building collaboration, teamwork, and communication skills. Musa et al. [12] state that PjBL contributes to soft skills development, which are essential for the 21st-century job market. By structuring teaching methods to accommodate the personality traits of 21st-century students, a greater level of soft skills development can occur since PjBL implementation draws upon existing traits of Generation Z, such as resilience and motivation. The study by Musa et al. [12] also found that upon completing the project, 72.4% of students agreed that they had become more sensitive and perceptive to the needs of their team members and stakeholders. 69% of students agreed they improved their social skills by talking to workers and employers. Therefore, PjBL can also help develop students' communication and interpersonal relationship skills [12]. Ballesteros-Sánchez et al. [23] found that by following the PjBL methodology, cognitive ability and communication ability showed the most significant improvement. Therefore, through PjBL, project management students may learn many highly sought-after skills by employers [12].

Game-based learning is another form of experiential learning where game participants can experience project management in complex situations and experience the daily challenges associated with an interdisciplinary project team [29]. The game aims to improve the technical knowledge and soft skills of participants. In addition, computer simulations include competitive games where students can learn decision-making skills when solving problems without the risk of real project consequences [40]. As Maratou et al. [43] discussed, the three-dimensional role-play game in virtual reality simulates unexpected events during a project, and students are expected to collaborate and interact to manage these events. It was found that participants had a positive experience regarding the game experience and the

learning effect it had [43]. Educational games, such as *C2* discussed in Geithner and Menzel [29], and the role-play virtual world outlined in Maratou et al. [43] are more enjoyable than traditional learning methods and more effective for soft skills development. By simulating real-life organisations, games enhance the experiential learning of human-related issues encountered in the project environment, such as team communication, leadership and collaboration [43]. Students can maximise their potential by harnessing their innate ability to use technology while simultaneously honing essential soft skills crucial for effective project management in the 21st century [40].

3.2.2 Active learning

Active learning is a learning method that actively engages students throughout the learning process [32]. Active learning involves learner participation through activities such as reading, discussions and writing. Ang et al. [45] found that blended learning through workshops is a creative way of encouraging active learning to engage project management students and helps graduates to be job-ready. Ballesteros-Sánchez et al. [23] found that engineering students can develop essential soft skills such as conflict management, leadership, communication, and emotion management by applying active learning methodologies. Furthermore, Connolly and Reinicke [32] found that project management students are engaged in the learning process by applying active learning methods. These active learning methods included limiting the class to 24 students who met in person twice a week in an active learning classroom (the chairs and tables are modular and moveable), where student-led learning is encouraged through various in-class activities. It was found that this approach improved soft skills such as emotional intelligence and interpersonal skills.

Role-play is an engaging and novel method currently used by institutions of higher learning to teach project management [40]. Through role-play, students can better appreciate the problems encountered in a multicultural project environment. In addition, students have the opportunity to try multiple roles in a project to improve their social awareness and develop skills such as communication, conflict resolution and negotiation from varying perspectives [40]. Role-play may also form part of experiential learning through competitive online games. Due to the recent disruptions to the learning environment, students have been exposed to more self-directed learning [40]. This has profoundly impacted students' learning experience since more classes and group activities had to be conducted online. This trend presents an opportunity to adapt educational approaches to support the discipline of project management in complex and uncertain times [40].

Many project management institutions are already shifting from a lecture-based teacher-centred (instructivist) learning approach to a more workshop-based learner-centred (constructivist) method to maximise student performance and engagement [45]. The shift from an instructivist to constructivist mode can be made by incorporating active learning methodologies into existing project management courses or developing new courses focusing on soft skills development [23].

3.2.3 Reflective learning

Reflective learning involves learners thinking about information and understanding things before acting. Reflective learning requires students to write case studies about their own experiences in projects and the possible impacts of their soft skills on the project outcomes. By reflecting on how the theory is applied to project situations, students can better understand how theory can assist their development and aid them in applying soft skills in the future [28]. In addition, by reflecting on their successes and challenges, project managers will be able to solve these problems more successfully in the future and be well-prepared for changing environments [29].

Project management curricula should emphasise reflective practice to better understand empathy's varying dimensions and how it impacts individuals [46]. Without reflective practices, students will not develop the soft skills obtained through other educational approaches, such as experiential learning and active learning [46]. Therefore, project managers who can reflect on their own experiences will develop their capabilities and leverage the capabilities of their project team members in a constructive manner [28].

Reflective learning methodologies may help students develop and retain soft skills learned in educational institutions. Furthermore, reflective learning teaches students reflection soft skills, which enables them to deal better with complex

situations [31]. Moreover, with higher levels of project complexity, project managers need to develop critical thinking and reflective practices that go beyond the technical aspects of traditional project management teaching [34].

4. Discussion

The literature review suggests that communication, leadership, interpersonal relationships, teamwork, and emotional intelligence are essential soft skills for 21st-century project managers to possess as they impact the project manager's effectiveness and project success. The learning methods used to develop these project management soft skills found in the literature review are experiential, active, and reflective learning.

One notable contradiction was identified in the study conducted by Connolly and Reinicke [32], where students rated effective communication skills as the least important for their careers. This discrepancy suggests a potential gap between the perceptions of project management students, who consider certain soft skills crucial for their careers, and the views of practising project managers, who prioritise different soft skills as most important for the industry.

The findings of this soft skills review exhibit a noteworthy convergence with existing scholarly literature emphasising the significance of human and social skills. Notably, the vital soft skills identified for 21st-century project managers, namely communication, leadership, interpersonal relationships, teamwork, and emotional intelligence, are consistent with the prevailing literature in the field [4, 7]. Moreover, the review highlights the interconnected nature of these soft skills, revealing multiple interdependencies within project management. These results are well-founded in light of the broader literature base, as these soft skills are integral to a project manager's capacity to foster professional, personal, and social relationships, necessitating a repertoire of diverse soft skills.

Some studies found other soft skills to be essential as well, such as creativity [31], problem-solving [47] and negotiation [4]. Although these additional soft skills were not found to be one of the essential soft skills in this literature review, it should be noted that soft skill rankings may differ and vary slightly in different fields depending on their relative importance and often participant subjectivity.

The soft skills learning methods review results align with the literature. In the form of PjBL and game-based learning, experiential learning received more attention in the literature than active and reflective learning. However, as previously outlined, each method applies a different approach and has its own unique learning outcomes, advantages and disadvantages. Therefore, the review results support existing literature regarding the success of active forms of education, rather than passive forms, in teaching project-based soft skills [48].

In light of the study by Zhu et al. [21], it becomes apparent that the link between a project manager's emotional intelligence and project commitment diminishes at higher degrees of project complexity. Consequently, for Generation Z individuals who demonstrate elevated levels of agreeableness and conscientiousness, both of which are associated with emotional intelligence, fostering the soft skill of reflection becomes increasingly vital. By engaging in reflective learning, students can develop their capacity to critically analyse situations, effectively navigating the complexities of 21st-century projects, a concept well-supported by existing literature [49, 50].

5. Conclusion

The review carries significant educational implications for both project management students and graduates as they enter the 21st-century workforce, as well as for project management educators who aim to prepare them for the challenges ahead. Notably, the study highlights communication, leadership, interpersonal skills, teamwork, and emotional intelligence as the most critical soft skills for project managers to possess in the modern era.

Furthermore, the findings underscore the value of active educational approaches like experiential learning, active learning, and reflective learning over more passive methods when educating future project managers. Emphasising these active approaches can better equip students with the practical knowledge and critical thinking abilities necessary to tackle the complexities of contemporary projects and succeed in their roles as project managers.

Twenty-nine studies were selected for inclusion in this systematic literature review, following inclusion/exclusion criteria. The implementation of a well-defined search strategy instilled confidence that all relevant research was accounted for in the review. However, despite the thoroughness of the process, this study, like any other, is not immune to limitations. A noteworthy limitation lies in the fact that the researchers responsible for conducting the search process, screening, selection, quality assessment, and coding of full-text articles could have introduced subconscious biases, selection bias, and reporting bias, potentially impacting the overall quality of the review. Furthermore, confounders bias might be present in the literature review due to variations in participant demographics, such as age, educational level, and experience, across the included studies. Nevertheless, the review has a relatively low selection bias because the study participants still align with the target population outlined in the predefined inclusion criteria. It is important to emphasise that the review questions were specifically focused on students or new graduates entering the 21st-century workforce, limiting the scope and applicability of the findings to this particular demographic. This specificity enhances the review's relevance for project management students and new graduates facing the challenges of the modern job market.

It is encouraging to note that several new studies have been published recently, focussing on soft skills in project management. Rosamilha et al. [51] also determined that communication, leadership, interpersonal relationships and emotional intelligence are the top four most cited 'soft skill' competencies irrespective of project type. In addition, in a study of graduate project managers, it was noted that their soft skills were not fully developed [52]. A notable approach in these studies is to prioritise behavioural, management, and organisational competencies using a hierarchical structure. These competencies are often seen as essential for successful project management, particularly in the public sector [53].

Future research should be conducted to assess the relationships between project management soft skill development at an institutional level and outcomes on future performance (in practice). For example, the goal of future research could be to establish an observable link between teaching methods, such as experiential learning, and soft skills, which lead to project success. Another recommendation for future research could be to include a qualitative component in the study. For example, a focus group with project managers from different generations (X, Y, Z) could provide interesting perspectives on the results found in this review.

The world is rapidly transitioning into a digital era, marked by the emergence of transformative technologies like artificial intelligence, machine learning, and bots, which hold the potential to bring significant changes to the project management field. However, even with these advancements, the human side of project management will remain indispensable. Hence, focusing on nurturing students' soft skills is crucial, as they form the bedrock of effective project management. By adapting educational approaches to leverage the strengths of the younger generation and their familiarity with technology, institutions can equip students with the soft skills needed to navigate the complexities and changes in the project management industry. Emphasising the development of communication, leadership, interpersonal skills, teamwork, and emotional intelligence will prepare future project managers to succeed in this evolving environment.

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