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Examining the Strategic Role of Soft Skills and Their Implications for Supporting Resource Development: A Narrative Literature Review

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Abstract

This narrative literature review examines how soft skills function strategically within human-resource and educational contexts and explores their implications for designing support resources. The review draws on twenty peer-reviewed studies published between 2015 and 2025, selected through systematic screening of keywords such as soft skills, human resources, and educational resources. Through interpretative thematic analysis, the study identifies core competencies of soft skills: communication, collaboration, problem-solving, adaptability, leadership, empathy, time management, creativity, and metacognition. Findings highlight the strategic role of soft skills in recruitment, professional development, team dynamics, and organizational culture within education, as well as systemic implications for curriculum design, assessment practices, teacher preparation, and institutional policy. Major barriers include curricular inertia, limited facilitator capacity, measurement challenges, and equity gaps in learner engagement. The review recommends embedding explicit soft skills into educational program frameworks and investing in sustained educator training. Future research should undertake detailed, longitudinal analyses of student soft-skills development using robust quantitative measures alongside qualitative approaches to identify effective instructional strategies and contextual factors that drive sustainable skill acquisition.

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INTRODUCTION

Over the past few decades, global education systems have undergone profound transformations driven by the digital revolution, economic globalization, and increasingly complex social and environmental dynamics. These shifts have compelled educational institutions to rethink pedagogical designs and graduate competencies to better prepare individuals for the challenges of the modern workforce and society. In this evolving landscape, technical proficiency (hard skills) alone is no longer sufficient; learners are also expected to possess non-technical competencies—commonly referred to as soft skills—reflecting emotional intelligence, effective communication, and social adaptability (Costa & Cipolla, 2025).

Soft skills encompass a constellation of interpersonal and intrapersonal abilities, including effective communication, teamwork, critical thinking, leadership, empathy, creativity, and self-management. These competencies are widely recognized as pivotal to individual success across various domains in the twenty-first century. Reports by the World Economic Forum consistently identify skills such as complex problem-solving, collaboration, and adaptability as essential in the global labor market (Vallejo-Romero et al., 2024). Yet, the impact of soft skills extends beyond employability; they also foster social cohesion and ethical decision-making within communities.

Despite their acknowledged importance, many educational institutions remain predominantly focused on cognitive and technical learning outcomes. Curricula, teaching methodologies, and assessment systems often prioritize quantifiable academic achievements over the development of learners' social and emotional capacities. This misalignment creates a gap between professional expectations and graduate readiness. Llorens et al. (2025) observed that students in information technology programs typically excel in technical domains but are deficient in collaborative innovation and interpersonal communication skills. Similar patterns have been identified within engineering education, where non-technical competencies receive limited attention throughout the learning process (Gerasimova & Oblova, 2025).

Gerasimova and Oblova (2025) argue that engineering programs often fail to equip students with the soft skills necessary to thrive in complex, dynamic work environments. They emphasize that the integration of soft skills alongside technical and social competences significantly enhances graduates' competitiveness in the global marketplace. In response, some institutions have begun adopting integrative strategies that blend communication training, technical instruction, and soft-skills development. For example, communication-based pedagogies have been leveraged as platforms to simultaneously cultivate communication proficiency, teamwork, and critical thinking.

Beyond communication-focused approaches, educational innovations such as Project-Based Learning and Problem-Based Learning have been employed to foster active learning, collaboration, and reflective practice. Formative assessments emphasizing reflection and peer collaboration further support soft-skills development (Rodríguez-Sabiote et al., 2021; Escola-Gascón & Gallifa, 2022). These methodologies encourage learners to engage in real-world problem solving, thereby promoting the simultaneous cultivation of technical knowledge and soft competencies.

Nevertheless, systemic integration of soft skills into educational frameworks remains limited. Key barriers include insufficient teacher training, a lack of valid measurement instruments, and entrenched exam-oriented cultures that marginalize non-cognitive learning outcomes (Castaño-Muñoz et al., 2021). Moreover, while Massive Open Online Courses offer flexibility, they often struggle to facilitate the rich social interactions essential for soft-skills acquisition, leaving many online learners without the collaborative and reflective experiences needed to develop interpersonal and intrapersonal capacities.

Meta-analytic evidence underscores these concerns. Vallejo-Romero et al. (2024) reported that, although academic literature acknowledges the critical role of soft skills in fostering innovation competencies, practical integration within educational processes remains sparse. Similarly, Costa and Cipolla's systematic mapping revealed that many institutions treat soft skills as supplementary rather than core curriculum components, notwithstanding their strategic importance in cultivating holistic, adaptable learners (Costa & Cipolla, 2025).

Recent bibliometric and structural topic modeling work by Zahn et al. (2025) further highlights the fragmentation of soft-skills research. Analyzing over 400 academic

publications, they identified 14 principal themes spanning individual, social-interpersonal, and institutional dimensions of soft skills. Their findings reveal a paucity of consistent theoretical frameworks and a predominance of descriptive studies that fail to capture the dynamic processes underpinning soft-skills development in educational settings holistically. Zahn et al. also noted the dearth of longitudinal and cross-cultural studies—particularly from developing countries—that could provide deeper contextual insights into implementation challenges and strategies. They recommend embedding soft skills into core curricula and constructing more systematic conceptual and methodological frameworks to guide future research and practice.

In light of these gaps, there is a compelling need for a narrative review that synthesizes existing knowledge on the strategic role of soft skills and their implications for developing support resources—specifically human and educational resources—that enable soft-skills cultivation. A narrative approach is particularly suited to this endeavor, as it allows for integrating diverse perspectives, identifying thematic patterns, and constructing a strategic framework that transcends disciplinary silos (Rodríguez-Martínez et al., 2021).

Moreover, the strategic significance of soft skills extends beyond the immediate educational context; these competencies contribute to individuals' quality of life and psychological resilience (Costa & Cipolla, 2025; Vallejo-Romero et al., 2024). However, the majority of studies remain descriptive, lacking a comprehensive examination of how soft skills function strategically within organizations and education systems to strengthen support resources.

In view of these background, the present narrative literature review aims to address the following research questions (RQ):

1. RQ-1: What constitutes soft skills, and what are their key indicators as identified in the evolving literature?
2. RQ-2: What strategic role do soft skills play in the development of human resources?
3. RQ-3: What are the implications of soft skills for the development of education systems?
4. RQ-4: What are the primary barriers to training and developing soft skills?

By systematically exploring these questions, this review will offer an in-depth analysis of the strategic role of soft skills and their implications for designing and leveraging support resources in education. The findings are expected to inform policymakers, curriculum designers, educators, and researchers seeking to embed soft-skills development in educational practice sustainably and strategically.

METHODS

This study adopts a narrative literature review methodology to examine and synthesize relevant findings on the strategic role of soft skills and their implications for developing support resources, as well as to identify key barriers to their training and development. The narrative approach was selected for its capacity to accommodate the complex, multidimensional, and contextual nature of the topic, allowing for a reflective thematic analysis across heterogeneous studies rather than restricting the inquiry to quantitative generalizations (Ferrari, 2015).

Literature Identification and Selection

The primary sources comprised twenty peer-reviewed journal articles, manually selected by the author from international publications indexed in Scopus and Web of Science, covering a ten-year period from 2015 to 2025. Articles were deemed eligible if they met all of the following conditions: they were published within the specified timeframe; they focused

on soft-skills development in the context of human or educational resource support, including both formal and non-formal settings; they reported empirical findings—whether quantitative, qualitative, or mixed-methods—or presented systematic reviews or design-based research; and they were available in English or in a rigorously translated scientific version.

Search Strategy and Screening Process

An initial database search employed combinations of keywords such as "soft skills," "human resources," "educational resources," "curriculum integration," and "training barriers." Titles and abstracts retrieved from this search were screened to assess thematic relevance. Studies that appeared to address strategic dimensions of soft skills or their developmental impediments underwent full-text review. During this phase, any articles with overlapping content, redundant data, or originating from the same research project were identified and excluded to prevent duplication. Through this iterative screening and elimination process, the pool was refined to twenty core studies that informed the subsequent analysis.

Data Extraction and Thematic Analysis

Each selected article was subjected to an interpretative thematic analysis conducted manually by the author. Key information—such as study objectives, methods, major findings, and identified barriers—was systematically extracted and coded. Codes were then clustered into overarching themes that correspond to the study's research questions: the definition and indicators of soft skills, their strategic role in human-resource development, their implications for educational systems, and the principal obstacles to their training. This process facilitated the construction of a coherent thematic framework, highlighting convergent and divergent insights across diverse methodological approaches.

Ensuring Credibility and Rigor

To uphold validity and credibility, transparency was maintained throughout the selection and analysis phases. All articles were drawn from reputable, peer-reviewed journals, and methodological diversity—including quantitative experiments, qualitative inquiries, and systematic reviews—was intentionally preserved to enrich the analytical perspective and mitigate single-method bias. Triangulation was employed by comparing and contrasting findings across studies, thereby reinforcing the consistency of identified themes and strengthening the interpretive foundation of the review.

Limitations and Mitigation Strategies

The narrative review approach inherently carries the risk of subjective bias in study selection and thematic interpretation. To mitigate this, the author applied consistent logical criteria during screening, engaged in critical reflection at each analytical juncture, and aligned interpretations with an explicit conceptual framework. While the approach does not yield statistical generalizations, it offers valuable theoretical and practical insights into how educational and human-resource systems can strategically integrate soft-skills development. These findings are intended to guide policymakers, curriculum designers, and educators in designing sustainable, context-sensitive interventions for cultivating soft skills.

RESULTS AND DISCUSSION

The results of this narrative review synthesize the objectives and principal findings of the twenty studies selected for analysis. Table 1 presents a concise overview of each study's author(s), year of publication, research aim, and key outcomes, providing a foundation for the thematic discussion that follows.

Table 1. Summary of aims and principal findings from the twenty studies included in this review

Author(s)	Year	Study objectives	Main Findings
Pantaruk et al.	2025	• To investigate the relationship between soft skills, internship experiences, and hospitality employability skills among Gen Z students in Thailand; measure levels of soft skills, internships, and employability; and analyze the direct impact of soft skills and internships on employability, including the mediating role of internships.	• Soft skills—especially communication, teamwork, time management, and problem-solving—significantly enhance work readiness. Internship experiences mediate this relationship, strengthening the translation of soft skills into practical employability competencies.
Esteve-Faubel et al.	2025	• To explore the development of soft skills in pre-service primary education teacher candidates through a Project-Based Learning intervention using the ICT tool Book Creator in a primary education music course.	• The PBL intervention with Book Creator significantly enhanced multiple soft skills—communication, teamwork, adaptability, autonomy, confidence, commitment, resilience, empathy, and problem-solving—among pre-service primary teachers. Structured collaboration, guided facilitation, and deep reflection were key to these gains.
Davies et al.	2025	• To identify core soft skills needed by digitally supported public linear infrastructure project teams during the construction phase and develop decision-support tools for soft-skills management based on measurable indicators.	• Communication, leadership, and creativity/curiosity emerged as critical. Expert interviews and literature review confirmed their importance and underscored the need for decision-support tools using measurable data to monitor and develop these skills for sustainable team performance.
Zahn et al.	2025	• To perform a bibliometric analysis of soft-skills literature in education, mapping existing research themes and identifying future directions for soft-skills instruction.	• Bibliometric mapping highlighted key research themes—communication, collaboration, problem-solving, adaptability, and emotional intelligence—and underscored the necessity of integrating soft skills into curricula, leveraging digital

Author(s)	Year	Study objectives	Main Findings
			technologies and interactivity, and accounting for cultural context for effective teaching.
Mohammed & Ozdamli	2024	• To conduct a PRISMA-compliant systematic review on the role of soft skills in higher ICT education, identifying trends, challenges, and recommendations to improve ICT graduates' employability.	• Soft skills—communication, teamwork, problem-solving, adaptability, leadership, emotional regulation, creativity, and motivation—are vital for ICT graduate readiness. The curriculum-industry gap calls for integration via project-based learning, industry collaboration, digital training, and metacognitive approaches.
Bedoya-Guerrero et al.	2024	• To explore online postgraduate students' perceptions of soft skills' importance for employability and to identify student clusters based on soft-skills development using cluster analysis.	• Students rated soft skills—results orientation, leadership, teamwork, effective communication, innovation, and self-regulation—as highly influential for employment. Cluster profiles ranged from high-development (self-regulation, communication, leadership, innovation) to low-interaction groups, highlighting the need for online curriculum integration.
Fantozzi et al.	2024	• To systematically review and clarify the terms soft skills, attitudes, and personality traits, and to propose a taxonomy distinguishing them within behavioral operations management.	• Identified key soft skills—communication, collaboration, problem-solving, adaptability, leadership, and emotional regulation—as crucial for performance and employability. The proposed taxonomy differentiates soft skills from attitudes and personality traits, facilitating clearer integration into education and industrial training.
Al-Sa'di et al.	2023	• To develop and validate an online questionnaire instrument measuring educators' self-awareness of soft skills.	• Produced and validated a reliable online questionnaire capturing educators' self-awareness of soft skills across work orientation/behavior,

Author(s)	Year	Study objectives	Main Findings
			social competence, and psychological constitution.
Joie-La Marle et al.	2023	• To examine the effects of a soft-skills metacognition training program on employees' self-efficacy and adaptive performance via a quasi-experimental design with control and pre-post measures.	• Metacognitive training increased awareness and application of communication, collaboration, and emotional regulation, boosting self-efficacy and adaptive performance. Participants reported greater confidence and improved team collaboration in response to workplace challenges.
Van-Heerden et al.	2023	• To compare current soft-skills profiles of construction professionals with industry requirements, identifying latent clusters of existing and needed skills to inform training and recruitment.	• Revealed a gap: existing skills clustered into Ethics & Professionalism, Self-Management, and Leadership & Power, while required skills were grouped into training-based (easily developed) and trait-based (harder to develop) clusters, suggesting targeted training and trait-based selection strategies.
Diz-Otero et al.	2023	• To map music's contributions to soft-skills development in educational contexts via a systematic review, identifying skills developed, intervention characteristics, and methodological/bibliometric trends.	• Music interventions effectively enhanced leadership, teamwork, communication, self-efficacy, empathy, creativity, and well-being across formal and non-formal settings and age groups, confirming music as a versatile tool for interpersonal and adaptive competence development.
Casali & Meneghetti	2023	• To test a model of direct and indirect relationships between soft skills (epistemic curiosity, creativity, critical thinking, perseverance, social awareness) and academic achievement and general distress, mediated by achievement emotions, strategies, motivational beliefs, and study resilience.	• Soft skills positively correlated with achievement emotions, strategies, motivational beliefs, and study resilience, which mediated their effects on academic performance and general distress, highlighting the mediating role of learning processes.
Lamri & Lubart	2023	• To propose a generic-skills framework (knowledge, active	• Conceptualized soft skills as combinations of generic

Author(s)	Year	Study objectives	Main Findings
		cognition, conation, affection, sensory-motor) reconciling hard and soft skills within an integrated model.	components—active cognition, conation, affection, etc.—that also underlie hard skills, emphasizing contextual and holistic development across five dimensions.
Coelho & Martins	2022	• To conduct a systematic review of effective digital training practices for soft-skills development and to provide direction for future online training research and practice.	• Identified effective digital approaches—MOOCs, game-based learning, blended/hybrid learning, case-based instruction, adaptive online platforms—for enhancing communication, collaboration, problem-solving, adaptability, and emotional regulation. Active methods and simulations broaden practice opportunities for flexible, inclusive development.
Lyu & Liu	2021	• To examine the relationship between soft-skill and hard-skill requirements and firm productivity in the U.S. energy sector.	• While demand for soft skills is rising, they did not positively affect productivity in energy firms; hard skills such as product marketing and computer proficiency had a more significant impact.
Emanuel et al.	2021	• To evaluate the effects of the online Passport course (Passport.online) on first-year University of Turin students' soft-skills improvement via a quasi-experimental design with a control group.	• The experimental group showed significant gains in problem-solving, time management, adaptive strategies, emotion regulation, proactivity, objective feedback, resilience, collaboration, communication, and conflict management; the control group showed no meaningful changes.
Hirudayaraj et al.	2021	• To determine the soft skills expected by employers for novice engineers, assess graduates' perceptions of importance and proficiency, and understand gaps between expectations and actual competencies.	• Identified significant proficiency gaps, especially in cross-group communication, time management, writing, and coping with uncertainty. Employers valued reliability, teamwork, motivation, and a positive attitude as crucial.

Author(s)	Year	Study objectives	Main Findings
Setiana et al.	2019	• To analyze the relationship between graduates' hard-skill and soft-skill competencies across four job types (manager, administrator, communicator, instructor) using alumni surveys.	• Graduates demonstrated strong soft skills—communication, collaboration, leadership, ethics, loyalty—across all job types, complementing hard skills and supporting career success, despite domain-specific variations.
Székely et al.	2018	• To identify the most important soft skills and their development methods for ICT specialists in European micro-enterprises.	• Soft skills—communication, problem-solving, teamwork, leadership—are critical in the micro-ICT sector. Their development requires a blended-learning approach: e-learning, face-to-face training, mentoring, and simulations.
Cacciolatti et al.	2017	• To explore which soft skills—such as communication, collaboration, and critical thinking—are sought by employers and their implications for curriculum development and educational policy, ensuring work readiness without sacrificing academic and national innovation potential.	• Supply-chain job analysis revealed that soft skills—effective communication, team collaboration, problem-solving, negotiation, initiative, working under pressure—are essential to complement technical competencies. However, they are often undervalued, necessitating systematic curriculum integration to bridge education-industry gaps.

Drawing on these twenty studies, this section organizes findings around four core themes: (1) the defining characteristics and indicators of soft skills; (2) the strategic role of soft skills in human-resource development; (3) the implications of soft-skills integration for educational systems; and (4) the primary barriers to training and development. By examining commonalities and divergences across multiple disciplines and learning environments, we identify emergent patterns and practical insights for curriculum designers, policymakers, and training practitioners. The ensuing discussion weaves together empirical evidence and pedagogical innovations to highlight actionable strategies for embedding soft-skills development within both formal and non-formal educational frameworks.

RQ-1: The Defining Characteristics and Indicators of Soft Skills

Understanding soft skills begins with clarifying their core characteristics and identifying measurable indicators. Across the twenty studies summarized in Table 1, certain competencies—communication, collaboration, problem-solving, adaptability, and leadership—emerge repeatedly as foundational soft skills. These competencies transcend disciplinary boundaries and are valued in contexts ranging from supply-chain operations (Cacciolatti et al., 2017) to digital infrastructure projects (Davies et al., 2025) and teacher-

education programs (Esteve-Faubel et al., 2025). The characteristics of soft skills is provided in Figure 1.

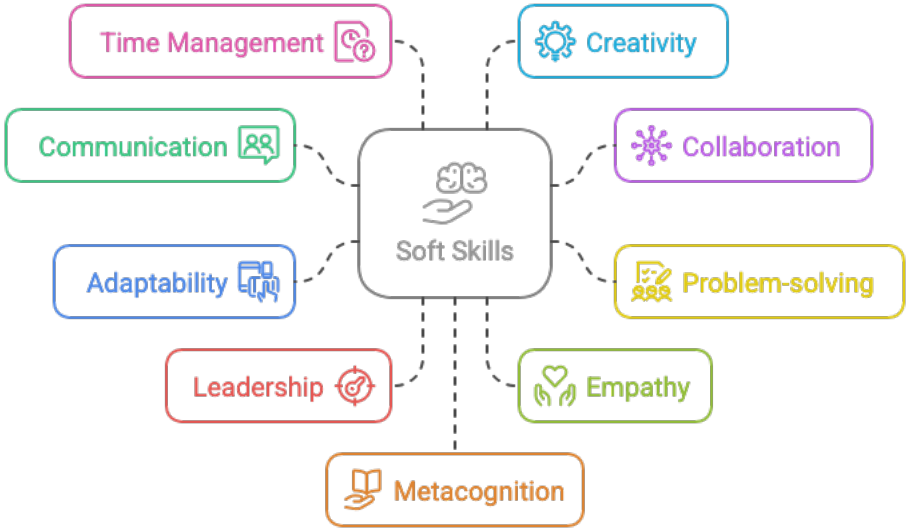

Figure 1. The characteristics of soft skills

Communication

Communication stands out as the most universally cited skill. In supply-chain analyses, Cacciolatti et al. noted employers' prioritization of effective oral and written communication for coordinating complex logistics and negotiations. Likewise, industry surveys of novice engineers (Hirudayaraj et al., 2021) highlighted proficiency gaps in cross-group dialogue and technical writing. Beyond workplace exchange, communication also encompasses self-expression and feedback: metacognition training (Joie-La Marle et al., 2023) improved participants' ability to articulate learning needs and regulate team discourse, while music-based interventions (Diz-Otero et al., 2023) fostered nonverbal communicative sensitivity through ensemble performance. Indicators for communication therefore include clarity of expression, active listening, appropriate use of digital media, and responsiveness to feedback.

Collaboration and teamwork

Closely intertwined with communication is collaboration. Nearly all empirical studies emphasize teamwork as a locus for exercising soft skills in real-world settings. Pantaruk et al. (2025) demonstrated that Thai hospitality interns who exhibited strong teamwork—manifested through role flexibility, peer support, and conflict resolution—achieved higher employability scores. Similarly, Esteve-Faubel et al. (2025) reported that structured group projects using Book Creator deepened prospective teachers' cooperative planning and peer mentoring, cultivating a shared sense of responsibility. Collaboration indicators include the ability to negotiate roles, provide constructive feedback, coordinate activities under time constraints, and leverage diverse perspectives to achieve common goals.

Problem-solving and critical thinking

Problem-solving is another pillar soft skill, encompassing analytical reasoning, creative ideation, and decision-making under uncertainty. In micro-ICT firms, Székely et al. (2018) observed that specialists who combined technical troubleshooting with lateral thinking outperformed peers in rapid prototyping tasks. Likewise, the bibliometric review by Zahn et al. (2025) identified problem-solving as a dominant theme in educational research, linking it to project-based and inquiry-based pedagogies. Indicators for problem-solving include the

capacity to decompose complex challenges, generate multiple solution pathways, assess potential risks, and iterate based on feedback.

Adaptability and resilience

Adaptability—often paired with resilience—is defined as the ability to adjust behavior, strategies, and emotional responses to evolving demands. Mohammed and Ozdamli (2024) underscored adaptability as critical for ICT graduates facing rapid technological change, while Coelho and Martins (2022) highlighted that digital training simulations bolster learners' confidence in adjusting to novel scenarios. Resilience, reflected in persistence and stress management, mediates the relationship between soft skills and both academic achievement (Casali & Meneghetti, 2023) and workplace performance (Joie-La Marle et al., 2023). Indicators for adaptability include openness to feedback, willingness to learn new tools or protocols, and emotional regulation during setbacks.

Leadership and initiative

Leadership extends beyond formal managerial roles to encompass informal influence, vision setting, and initiative-taking. In supply-chain contexts, Cacciolatti et al. (2017) found that negotiation and initiative were valued alongside teamwork, enabling employees to lead small-scale projects without hierarchical authority. Lamri and Lubart's (2023) generic-skills framework situates leadership within a broader conational dimension—reflecting drive and goal orientation—while Bedoya-Guerrero et al. (2024) identified clusters of postgraduate students with high leadership profiles, correlating these with proactive behaviors and self-regulated learning. Leadership indicators include motivation of others, delegation, ethical decision-making, and the pursuit of continuous improvement.

Empathy and social awareness

Empathy—a facet of emotional intelligence—appears in contexts requiring interpersonal sensitivity. Music-based studies (Diz-Otero et al., 2023) showed that ensemble practice cultivates empathy through attunement to others' expressive cues. In teacher-education, Esteve-Faubel et al. (2025) observed that reflective journals enabled pre-service teachers to recognize students' emotional states, fostering inclusive classroom strategies. Social awareness also encompasses cultural competence, as recommended by Zahn et al. (2025) for curricula that respect diverse learning backgrounds. Indicators include active perspective-taking, ethical reasoning, and adjustments to communication styles to honor cultural norms.

Time management and organization

Often underemphasized, time management and organizational skills are foundational for executing tasks within deadlines. Pantaruk et al. (2025) highlighted time management as a critical determinant of internship success, while Emanuel et al. (2021) showed that online Passport participants significantly improved self-regulation of study schedules and project planning. Indicators include goal setting, prioritization, deadline adherence, and systematic monitoring of task progress.

Creativity and innovation

Creativity is integral to problem-solving and adaptability. Fantozzi et al. (2024) included creativity as a core dimension in their proposed taxonomy, distinguishing it from static traits. In infrastructure projects, Davies et al. (2025) noted that curiosity and creative ideation enabled teams to navigate unanticipated technical constraints. Creativity indicators encompass divergent thinking, experimentation, and the capacity to synthesize unrelated concepts into novel solutions.

Metacognition and self-awareness

Finally, metacognitive skills—awareness of one's own learning processes—serve as a meta-level indicator underpinning the development of all other soft skills. Joie-La Marle et al. (2023) demonstrated that soft-skills metacognition training elevates self-efficacy and adaptive performance. Al-Sa'di et al. (2023) validated a questionnaire instrument for measuring educators' self-awareness of their soft-skills competencies, recognizing that accurate self-assessment is a prerequisite for targeted improvement. Indicators include reflective practice, goal monitoring, strategy adjustment, and honest self-appraisal.

Synthesizing indicators into a framework

Aligning these competencies and indicators suggests a layered framework:

1. Core Interpersonal Skills: communication, collaboration, empathy.
2. Cognitive Skills: problem-solving, critical thinking, creativity, metacognition.
3. Self-Management Skills: time management, adaptability, resilience, emotional regulation.
4. Leadership and Initiative: motivation, ethical decision-making, visioning, delegation.
5. Contextual Sensitivity: social awareness, cultural competence, digital literacy.

This structure echoes Lamri and Lubart's (2023) integration of generic components and supports Costa and Cipolla's (2025) view of soft skills as embedded within broader skill systems rather than isolated traits. Measuring these indicators requires mixed methods—quantitative scales for self-efficacy and peer ratings, qualitative reflections, and performance tasks such as simulations or project deliverables.

Implications for assessment and curriculum design

Recognizing the multidimensional nature of soft skills necessitates diversified assessment strategies. Formative assessments—peer feedback, reflective journals, and portfolio reviews—capture developmental trajectories, while summative tasks—case analyses, role plays, and digital badges—validate proficiency at program milestones. Embedding soft-skills indicators into curricular outcomes can drive pedagogical alignment; for instance, project-based modules can specify expected communication and problem-solving benchmarks, and internships can include structured self-reflection on teamwork and initiative.

The twenty studies provide a robust, convergent portrait of soft skills as interrelated, situationally enacted competencies. By distilling common indicators—communication clarity, collaborative negotiation, analytical reasoning, adaptive regulation, and reflective metacognition—educators and employers can craft targeted interventions and assessments. Subsequent sections will explore how these defined characteristics function strategically in human-resource development and how educational systems can integrate them sustainably.

RQ-2: The Strategic Role of Soft Skills in Human-Resource Development in the Education Sector

Human-resource development (HRD) in education encompasses recruitment, professional training, performance management, and career progression for educators, administrators, and support staff. In this sector, soft skills play a pivotal strategic role by enhancing individual capacity, fostering collaborative cultures, and aligning human capital investments with institutional goals. The twenty studies summarized in Table 1 shed light on how specific soft-skills interventions, assessment instruments, and training models contribute to strengthening HRD across diverse educational contexts. Figure 2 provide the strategic role of soft skills in human-resource development in the education sector.

Figure 2. The strategic role of soft skills in human-resource development in the education sector

Enhancing educator recruitment and selection

Accurate identification of soft-skill profiles is foundational to recruiting candidates who can thrive in dynamic educational environments. Van-Heerden et al. (2023) employed latent-cluster analysis to map existing and desired soft-skills among construction professionals; a parallel approach in education could segment applicants by clusters such as "collaborative innovators" or "reflective facilitators." Bedoya-Guerrero et al. (2024) clustered online postgraduate students based on self-regulated learning, leadership, and innovation, demonstrating that cluster-based profiling informs targeted support and cohort formation. Education institutions can adapt these methodologies to refine selection criteria—prioritizing traits like adaptability and cultural competence—thereby reducing turnover and enhancing fit.

Building self-awareness and reflective practice

Before targeted training, individuals must accurately perceive their soft-skill strengths and gaps. Al-Sa'di et al. (2023) developed and validated an online questionnaire to measure educators' self-awareness of competencies such as social orientation and psychological resilience. Embedding such instruments in induction and periodic appraisal cycles enables HRD managers to tailor professional-development plans. Furthermore, Joie-La Marle et al. (2023) showed that metacognition training elevates self-efficacy and adaptive performance, suggesting that reflective workshops—combining guided self-assessment with peer feedback—can deepen educators' insight into their communicative and collaborative capacities, ultimately informing personalized learning paths.

Structuring professional-development interventions

Project-based and problem-based learning (PBL) approaches, typically associated with student learning, also offer strategic value for staff development. Esteve-Faubel et al. (2025) demonstrated that a PBL intervention using an ICT tool (Book Creator) significantly enhanced pre-service teachers' teamwork, autonomy, and resilience. HRD units can adopt similar PBL modules for in-service educators—tasking teams with designing digital lesson plans or community-engagement projects—to simultaneously sharpen leadership, creativity, and cross-functional collaboration. Coelho and Martins (2022) identified blended and hybrid

digital trainings—MOOCs, simulations, case-based instruction—as effective for flexible, scalable soft-skills development. Education HRD can leverage these modalities for asynchronous upskilling, ensuring wide participation without disrupting classroom commitments.

Linking soft skills to employability and career progression

Pantaruk et al. (2025) found that internship experiences mediated the translation of soft skills into practical employability competencies among Gen Z hospitality students. Similarly, structured mentoring and internships within education—such as teaching practicums and administrative apprenticeships—act as real-world laboratories where communication, time management, and problem-solving skills are exercised and evaluated. Emanuel et al. (2021) reported significant gains in first-year undergraduates' soft skills following an online Passport course; extending such credentialed courses to teacher assistants and administrative staff can formalize career pathways, where mastery of soft skills unlocks badges or micro-credentials linked to promotion criteria.

Embedding soft skills in leadership development

Leadership in education extends beyond principalship to include department chairs, curriculum coordinators, and project leads. Cacciolatti et al. (2017) underscored negotiation, initiative, and pressure-management as critical in supply-chain contexts—a finding that resonates with educational leaders who must balance stakeholder demands, resource constraints, and innovation goals. Lamri and Lubart's (2023) integrated framework conceptualizes leadership as a conational component—driven by goal orientation and ethical judgement—suggesting that HRD curricula should blend ethics seminars with scenario-based leadership simulations. Davies et al. (2025) called for decision-support tools using measurable soft-skill indicators; education HR departments can pilot dashboards that track leadership behaviors—such as delegation effectiveness or conflict-resolution success—linking data to targeted coaching.

Aligning organizational culture and team dynamics

Soft skills shape interpersonal climates and collaborative efficacy. Diz-Otero et al. (2023) showed that music ensembles foster empathy, communication, and teamwork across age groups—illustrating that creative, cross-departmental "ensemble" projects (e.g., cross-curricular committees) nurture cohesion. Mohammed and Ozdamli (2024) highlighted the curriculum-industry gap for ICT graduates; education HRD can bridge theory and practice by facilitating industry-school partnerships, where staff engage in co-design workshops with external partners, honing adaptability and client-orientation. By embedding soft-skill interactions into daily operational processes—team huddles, peer-observation cycles, and reflective retreats—institutions reinforce collaborative norms.

Measuring impact and ensuring sustainability

Accurate measurement underpins strategic HRD investments. Fantozzi et al. (2024) proposed a taxonomy distinguishing soft skills, attitudes, and personality traits, clarifying assessment targets. HRD managers should deploy mixed-methods evaluation: quantitative scales for self-efficacy and peer ratings, qualitative analyses of reflective journals, and performance metrics from project outcomes. Triangulating data, as Valencia-Romero et al. (2024) recommend, ensures that training outcomes translate into improved instructional quality, learner satisfaction, and retention rates. Periodic program reviews—anchored in thematic indicators from Table 1—will sustain momentum and inform continuous improvement.

Overcoming barriers and fostering buy-in

Despite clear strategic benefits, barriers such as entrenched exam-oriented cultures, limited educator training in soft-skills facilitation, and assessment validity concerns (Castaño-Muñoz et al., 2021) can stymie HRD efforts. Strategic interventions include: establishing dedicated soft-skills competence centers; integrating soft-skills objectives into institutional mission statements; providing incentives—such as micro-credential recognition or career-ladder advancement—for demonstrated mastery; and partnering with specialized providers for instrument development and facilitator training. Cross-functional task forces can pilot soft-skill initiatives, generating success stories that build organizational buy-in.

The strategic integration of soft skills into HRD within the education sector transforms human capital from a static resource into a dynamic, adaptive workforce. By leveraging profiling tools, reflective instruments, project-based modules, and robust assessment frameworks, education institutions can cultivate a pipeline of educators and administrators equipped to navigate complexity, foster innovation, and sustain collaborative cultures. Ultimately, soft-skills–driven HRD aligns individual growth with organizational vision, ensuring that educational systems remain resilient and responsive in an ever-evolving global landscape.

RQ-3: The Implications of Soft-Skills Integration for Educational Systems

Integrating soft skills into educational systems entails profound implications across curriculum design, pedagogical approaches, assessment practices, teacher preparation, and institutional policy. First, curricula must move beyond traditional content mastery to embed soft-skills development as an explicit learning outcome. Studies such as Esteve-Faubel et al. (2025) demonstrate that Project-Based Learning (PBL) interventions—when combined with digital tools like Book Creator—can simultaneously advance musical content and a suite of soft skills including teamwork, adaptability, and empathy. Embedding PBL modules across disciplines encourages students to tackle authentic problems, thereby creating natural opportunities to practice communication, critical thinking, and resilience within domain-specific contexts rather than relegating soft skills to standalone workshops.

Digital and blended learning environments further expand the reach and scalability of soft-skills integration. Coelho and Martins's systematic review (2022) highlights the efficacy of MOOCs, game-based learning, and adaptive online platforms in enhancing communication, collaboration, and emotion regulation. By incorporating scenario-based simulations and case studies into online courses, institutions can offer flexible pathways for students to hone soft skills at their own pace. Bedoya-Guerrero et al. (2024) underscore the potential of cluster-based analytics to tailor digital curricula: by identifying student profiles—ranging from highly self-regulated innovators to low-interaction learners—educators can customize support mechanisms (peer mentoring, reflective prompts) that nurture each cluster's developmental needs.

Assessment strategies must likewise evolve to capture soft-skills acquisition accurately. Traditional high-stakes exams fail to measure attributes such as empathy or creative problem-solving. Fantozzi et al. (2024) propose a clear taxonomy distinguishing soft skills from attitudes and traits, enabling more precise targeting of assessment instruments. Mixed-methods evaluations—combining quantitative self-efficacy scales with qualitative artifacts (reflective journals, video-recorded role plays)—offer richer insights into student progress. Al-Sa'di et al. (2023) provide a model with their validated online questionnaire for educators' self-awareness; similar instruments can be adapted for students to self-monitor their

communication clarity, teamwork behaviors, and adaptability, fostering metacognitive competencies that underpin lifelong learning.

Teacher preparation and professional development are critical levers for systemic change. Many instructors lack training to design and facilitate soft-skills learning experiences. Joie-La Marle et al. (2023) show that metacognition training for employees boosts self-efficacy and adaptive performance—an approach that can be translated into education development: workshops on reflective teaching practices, peer-observation cycles focusing on facilitation of group work, and cohort-based inquiries into classroom strategies that model emotional regulation and collaborative leadership. Moreover, Pantaruk et al. (2025) emphasize the mediating role of internships in translating soft skills into employability; similarly, teaching practicums can be structured with explicit soft-skills objectives and reflective debriefs to ensure pre-service teachers develop both pedagogical content knowledge and interpersonal capacities.

Institutional policy must align incentives and resources with soft-skills priorities. Curriculum committees should embed soft-skills outcomes into program accreditation standards and degree requirements, making them non-negotiable components of graduation criteria. Mohammed and Ozdamli (2024) identify gaps between ICT curricula and industry needs; educational leaders can form advisory councils with employers to co-design competencies frameworks that integrate technical and non-technical skills. Decision-support dashboards, as advocated by Davies et al. (2025) for infrastructure teams, can be adapted to track soft-skills metrics across cohorts—monitoring progress in communication, leadership, and creativity over time and flagging areas for intervention.

Cross-disciplinary collaboration is another systemic implication. Soft-skills development flourishes in environments where learners engage with diverse peers and perspectives. Zahn et al. (2025) highlight the importance of cultural context in soft-skills instruction; by forming interdisciplinary project teams—engineering students collaborating with education majors, for instance—institutions foster cultural competence and broaden students' adaptability. Such collaborations also prepare graduates for increasingly cross-functional workplaces, reinforcing the notion that soft skills are not siloed but rather permeate every professional domain.

Sustainability of soft-skills integration depends on continuous feedback loops and research–practice partnerships. Ongoing evaluation—using longitudinal studies rather than one-off assessments—can illuminate how soft-skills interventions influence academic success, retention, and post-graduation outcomes. Casali and Meneghetti (2023) demonstrate how soft-skills foster study resilience and positive achievement emotions; tracking cohorts over time can validate these connections and justify continued investment. Partnerships with external researchers can bring rigorous design-based research approaches into institutional innovation, as seen in mixed-method reviews (Ferrari, 2015), ensuring that initiatives are iteratively refined based on empirical evidence.

Finally, equity considerations must guide integration efforts. Soft-skills pedagogies that rely on high-stakes presentations or technologically mediated platforms may disadvantage students from under-resourced backgrounds. Institutions should provide scaffolded supports—mentoring, low-barrier practice opportunities, and inclusive facilitation techniques—to ensure that all learners can develop soft skills effectively. Drawing on the taxonomy of Lamri and Lubart (2023), educators can design differentiated activities that address varying levels of active cognition, conation, and affection, tailoring experiences to diverse learner profiles.

In sum, integrating soft skills into educational systems transforms not only what students learn but how institutions function. By reimagining curricula around authentic problem-solving, leveraging digital modalities for flexible delivery, innovating assessment practices, investing in education development, and aligning policy and infrastructure, education systems can produce graduates who are not only technically competent but also socially adept, creatively agile, and ethically grounded. These systemic changes, informed by the diverse studies in Table 1, equip learners and institutions to thrive in an ever-changing global landscape.

RQ-4: The Primary Barriers to Training and Development

Despite widespread recognition of soft skills as critical to individual success and organizational effectiveness, their systematic training and development encounter multiple hurdles. Drawing on evidence from the twenty studies in Table 1, four broad categories of barriers emerge: (1) curricular and institutional constraints; (2) educator and facilitator capacity; (3) assessment and measurement challenges; and (4) learner engagement and access issues.

Curricular and institutional constraints

A dominant obstacle is the prevailing focus on cognitive and technical content within formal curricula. Cacciolatti et al. (2017) found that, even in sectors where soft skills are essential, these competencies remain undervalued relative to hard skills. Similarly, Lyu and Liu (2021) reported that energy-sector employers prioritize measurable technical proficiencies—such as marketing and computer skills—over soft skills when assessing productivity, reinforcing institutional tendencies to marginalize non-technical learning objectives.

Educational accreditation standards and program structures often reinforce this bias by emphasizing quantifiable outcomes on standardized tests or technical certification benchmarks. As Mohammed and Ozdamli (2024) note in their review of ICT higher-education programs, the misalignment between curriculum design and industry expectations reflects a systemic inertia that treats soft-skills development as supplementary rather than foundational. Institutions lack formal mechanisms—such as mandated soft-skills learning outcomes in program accreditation—to compel consistent integration across courses and departments.

Moreover, curriculum committees and policy-makers may resist reallocation of instructional time and resources toward soft-skills initiatives, perceiving them as peripheral to core disciplinary aims. This resistance can stifle innovation: for example, while Esteve-Faubel et al. (2025) demonstrated the power of Project-Based Learning (PBL) with digital tools like Book Creator to cultivate both domain knowledge and soft skills, scaling such interventions requires institutional endorsement and budgetary support that many programs do not yet provide.

Educator and facilitator capacity

Even where policy supports soft-skills integration, a shortage of skilled facilitators hampers effective delivery. Coelho and Martins (2022) emphasize that designing and moderating digital training—MOOCs, simulations, adaptive platforms—demands specialized instructional-design expertise not widely present among educational institution. Al-Sa'di et al. (2023) underscore this gap by highlighting that many educators are unaware of how to assess or reflect on their own soft-skills competencies, let alone coach students in their development.

Joie-La Marle et al. (2023) reveal that metacognitive training can boost self-efficacy and adaptive performance, yet such workshops require facilitators who can guide reflective practice, moderate sensitive discussions around emotional regulation, and scaffold group dynamics. Without systematic professional-development programs to build education capacity in these areas, attempts to introduce soft-skills modules risk superficiality or inconsistency.

Time constraints further exacerbate this barrier: educators often lack the bandwidth to redesign courses, develop new materials, or engage in the continuous feedback loops necessary for soft-skills cultivation. The risk is that soft-skills content becomes tacked on to existing syllabi, delivered as isolated one-off sessions rather than embedded within authentic learning experiences.

Assessment and measurement challenges

The adage "What gets measured gets managed" underscores the importance of valid, reliable instruments to track soft-skills growth. Yet, as Fantozzi et al. (2024) demonstrate in their systematic review, soft skills are frequently conflated with attitudes and personality traits, muddying the conceptual clarity needed for precise assessment. Without clear taxonomies, institutions struggle to operationalize learning outcomes, leaving instructors uncertain about which indicators to target.

Standardized tests are ill-suited to capture traits such as empathy, resilience, or initiative. Mixed-methods alternatives—self-report questionnaires, peer ratings, reflective journals, performance simulations—offer richer data but demand resources and expertise for administration and analysis. Al-Sa'di et al.'s (2023) validated questionnaire for educators is a valuable model, yet few contexts have equivalent tools for students or staff in other roles.

Zahn et al. (2025) highlight the fragmentation of soft-skills literature, noting a scarcity of consistent theoretical frameworks and longitudinal studies. This inconsistency hampers institutions' ability to benchmark progress over time or compare outcomes across programs. Even when data are collected, linking soft-skills metrics to downstream indicators—such as graduation rates, job placement, or workplace performance—remains methodologically complex, deterring sustained investment in measurement systems.

Learner engagement and access issues

Learner motivation and opportunity can limit the effectiveness of soft-skills interventions. Bedoya-Guerrero et al. (2024) found that online postgraduate students cluster into profiles ranging from highly self-regulated innovators to low-interaction groups; without targeted supports, the latter risk disengagement in digital soft-skills modules. Coelho and Martins (2022) similarly observed that while digital simulations expand access, they can't fully replicate the rich social interactions needed for interpersonal growth, leaving some learners under-supported.

Internship-mediated development—highlighted by Pantaruk et al. (2025) as a powerful mechanism for translating soft skills into employability—depends on equitable access to quality placements. Students from under-resourced backgrounds or remote regions may face logistical or financial barriers to securing internships, perpetuating disparities in soft-skills acquisition.

Cultural and linguistic diversity further complicate engagement. In multilingual or multicultural cohorts, communication norms vary; learners may hesitate to participate in group discussions or role plays due to fear of judgment. Zahn et al. (2025) stress the need for culturally sensitive pedagogies, yet few programs provide targeted training for instructors to navigate these dynamics.

Interconnectedness of barriers and pathways forward

These four barrier categories are deeply interwoven. Curricular constraints feed into educator capacity gaps, which in turn limit the development of robust assessment systems, ultimately affecting learner engagement. For instance, without institutional mandates for soft-skills outcomes, professional-development programs remain scarce; without trained facilitators, assessment tools gather dust; and without visible measurement and recognition, learners prioritize technical competencies that "count" toward grades and credentials.

Addressing these barriers requires holistic strategies:

1. Policy Alignment: Embed soft-skills outcomes in accreditation standards and degree frameworks, ensuring institutional accountability.
2. Capacity Building: Launch comprehensive education-development initiatives—aligned with Al-Sa'di et al.'s questionnaire model—to train educators in facilitation, reflection, and assessment of soft skills.
3. Assessment Innovation: Invest in mixed-methods assessment infrastructures, co-developing instruments with industry partners as Davies et al. (2025) recommend for decision-support tools, and integrating technology platforms for real-time feedback.
4. Equity-Focused Design: Provide scaffolded supports for low-interaction and under-resourced learners, ensuring access to internships, mentoring, and inclusive pedagogies that respect cultural differences.

In sum, overcoming the primary barriers to soft-skills training and development demands a concerted, system-wide effort that aligns policy, builds facilitator capacity, innovates assessment, and centers equity. By embedding soft-skills outcomes into accreditation and program frameworks, investing in sustained professional development for educators, and deploying robust, mixed-methods evaluation tools in partnership with industry, institutions can ensure these competencies are no longer peripheral but integral to every learning pathway. Equally, designing inclusive supports—such as scaffolded digital modules, culturally responsive facilitation, and accessible internships—will engage all learners, particularly those from underserved backgrounds. Only through such a holistic strategy can educational systems break the cycle of marginalizing non-technical skills, equip graduates for complex real-world demands, and foster a workforce adept at communication, collaboration, critical thinking, and adaptability.

CONCLUSION

This narrative literature review has illuminated the multifaceted nature of soft skills and their strategic significance across educational and organizational contexts. Synthesizing twenty empirical and review studies, we have identified a core set of competencies—communication, collaboration, problem-solving, adaptability, leadership, empathy, time management, creativity, and metacognition—that underpin individual and collective success in the twenty-first century. These skills are not isolated traits but interwoven capacities that, when developed intentionally, enhance employability, innovation, and psychological resilience.

Our analysis further underscores the strategic role of soft skills in human-resource development within the education sector. Screening, profiling, and targeted training interventions—ranging from metacognitive workshops and PBL modules to digital simulations—enable institutions to build a more adaptive and collaborative workforce. By embedding soft-skills outcomes into recruitment, appraisal, and career-ladder frameworks, education providers can align professional-development pathways with evolving workforce demands.

At the system level, integrating soft skills into curricula transforms pedagogical design, assessment practices, and institutional policy. Blended and online modalities offer flexible avenues for experiential learning, while mixed-methods evaluation frameworks provide richer, actionable insights into student and staff development. Cross-disciplinary collaborations and culturally responsive approaches further ensure that soft-skills initiatives are inclusive and contextually relevant.

Despite the clear benefits, significant barriers—curricular inertia, facilitator capacity gaps, measurement challenges, and learner access issues—impede widespread adoption. Addressing these obstacles requires a holistic, equity-focused strategy that aligns accreditation standards, invests in facilitator training, innovates assessment infrastructures, and provides scaffolded supports for all learners. Future research should pursue longitudinal and cross-cultural studies to evaluate the long-term impact of integrated soft-skills interventions and refine best practices for diverse educational settings.

RECOMMENDATION

To operationalize these insights, educational institutions should institute a comprehensive soft-skills framework that mandates explicit learning outcomes, integrates project-based and digital experiential modules across programs, and employs mixed-methods assessment tools co-developed with industry partners. Concurrently, sustained education-development initiatives must equip educators with the pedagogical and evaluative expertise necessary to scaffold soft-skills growth, while equity-focused supports—such as targeted mentoring, accessible internships, and culturally responsive facilitation—ensure that all learners can engage fully in these transformative experiences. Moreover, future research should undertake detailed, longitudinal analyses of student soft-skills development using robust quantitative measures alongside qualitative approaches to identify effective instructional strategies and contextual factors that drive sustainable skill acquisition.

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