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The 3H (Heart-Head-Hand) Educational Framework: An Evaluative Model for Integrating Values, Knowledge, and Skills in 21st Century Education

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Abstract

Educational assessment has often focused on cognitive achievement, while values, socio-emotional development, and practical skills have received less systematic attention. This imbalance can limit the extent to which assessment captures the complexity of student learning. Although holistic education has gained prominence in contemporary educational discourse, translating this perspective into a coherent assessment model remains a challenge. This study proposes the 3H (Heart-Head-Hand) Educational Framework to examine how values, knowledge, and practical skills can be incorporated into a coherent approach to educational assessment. The framework was developed through a conceptual analysis of educational theories and an integrative review of relevant literature, with particular attention to the relationships among affective, cognitive, and psychomotor dimensions of learning. The resulting framework organizes learning outcomes into three interrelated domains: Heart, which encompasses values and socio-emotional dispositions; Head, which addresses knowledge and cognitive processes; and Hand, which concerns practical skills and the application of learning. It further outlines potential indicators, curriculum-instruction-assessment alignment strategies, and assessment approaches for examining these domains in relation to one another. Informed by international educational perspectives, including those advanced by the Organisation for Economic Co-operation and Development (OECD), and literature on authentic and socio-emotional assessment, the framework offers a structured basis for considering learning outcomes beyond academic achievement alone. Its principal contribution lies in connecting affective, cognitive, and psychomotor dimensions within a single assessment framework while identifying practical considerations for implementation. As a conceptual model, however, its effectiveness and measurement validity have yet to be established empirically. Future research should examine its applicability across educational settings, develop and test domain-specific indicators, and investigate the reliability and validity of the proposed assessment approaches.

Keywords: Holistic Education, Educational Evaluation, Authentic Assessment, Heart-Head-Hand Framework

INTRODUCTION

Contemporary education aims not merely at academic proficiency but at preparing learners to navigate complex societal and socio emotional demands (Schleicher, 2020; OECD, 2024). However, traditional evaluation systems emphasize cognitive achievements while undervaluing values, social emotional competencies, and practical skills. This imbalance has limited the validity of evaluation systems as tools for supporting holistic human development (Biesta, 2020). International evidence shows that socio emotional

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skills such as empathy, collaboration, and emotional regulation are critical for well rounded outcomes yet insufficiently captured by standard assessment mechanisms (OECD, 2024; OECD, 2023).

Contemporary research in educational evaluation further highlights the need for authentic, performance oriented assessment that bridges cognitive and non cognitive domains (Vlachopoulos & Makri, 2024). Against this backdrop, this paper introduces the 3H (Heart-Head-Hand). The 3H Educational Framework is a conceptual assessment model that brings values, knowledge, and practical skills together to support curriculum development, instructional planning, and the evaluation of holistic learning outcomes.

This study makes three significant contributions to the field of educational evaluation. First, it proposes the 3H framework as a novel integrative model that systematically unifies affective, cognitive, and psychomotor domains within a single evaluative structure. Second, it operationalizes these domains through measurable indicators, an evaluation matrix, and performance-based rubrics, addressing the lack of actionable tools in existing holistic frameworks. Third, it provides a coherent alignment mechanism linking curriculum, instruction, and assessment, thereby advancing both theoretical and practical dimensions of holistic education. Contemporary research in educational evaluation further highlights the need for authentic, performance-oriented assessment that bridges cognitive and non-cognitive domains (Vlachopoulos & Makri, 2024; Bearman & Dawson, 2023; Boud & Falchikov, 2007; Tai et al., 2018). Recent studies also emphasize the importance of developing students' evaluative judgment and feedback literacy as central components of meaningful assessment practices (Carless & Boud, 2018; Panadero et al., 2018). Against this backdrop, this paper introduces the 3H (Heart-Head-Hand) Educational Framework.

"This study contributes specifically to the field of educational evaluation by advancing a theoretically grounded and operational model aligned with contemporary debates in educational evaluation research."

Unlike prior frameworks that conceptualize learning domains as parallel or loosely connected constructs, the 3H framework introduces a structurally integrated evaluative architecture that explicitly aligns values (Heart), knowledge (Head), and skills (Hand) within a unified system of curriculum, instruction, and assessment. Rather than extending existing taxonomies, the framework repositions evaluation as the central mechanism that operationalizes holistic education through measurable indicators, alignment strategies, and performance-based assessment tools. This integrative and operational orientation distinguishes the 3H framework from prevailing models, which often remain descriptive or fragmented in their application. Consequently, the proposed model contributes not only conceptual synthesis but also actionable evaluative design, addressing a critical gap in contemporary educational evaluation research

METHOD

This study adopted a theory-building research design to develop the 3H (Heart-Head-Hand) Educational Framework as a conceptual model for holistic educational assessment. The research combined conceptual analysis with an integrative literature review to examine how values, knowledge, and practical skills can be incorporated into a coherent assessment framework. Following Jaakkola (2020), the conceptual development process focused on synthesizing existing theoretical perspectives, identifying limitations in current approaches, and establishing relationships among key constructs. The aim was to develop a theoretically grounded framework with potential applications in curriculum design, instructional planning, and educational assessment.

The literature review focused on peer-reviewed journal articles addressing holistic education, authentic assessment, socio-emotional learning, competency-based education, and curriculum evaluation. The proposed publication period was 2020-2025, with selected earlier publications included when necessary to establish the theoretical foundations of the study. Relevant literature was identified through academic

databases, including Scopus and Web of Science, where accessible. Publications were selected according to their relevance to the research objectives, conceptual contribution, and potential to inform the integration of values, knowledge, and skills. Reports from reputable educational organizations, including the Organisation for Economic Co-operation and Development (OECD) and the Collaborative for Academic, Social, and Emotional Learning (CASEL), were also considered as supplementary sources. The review prioritized studies offering substantive theoretical or empirical insights rather than relying exclusively on journal rankings.

The selected literature was examined to identify the assumptions underlying different approaches to learning and assessment. Particular attention was given to behaviorist, constructivist, and humanistic perspectives and their implications for understanding learning outcomes. The analysis considered how these perspectives address cognitive development, affective dispositions, and the application of knowledge through practical skills. This process established the conceptual basis for distinguishing the three domains of the proposed framework while examining their interrelationships. Existing approaches to holistic education and educational assessment were also compared with the proposed 3H framework. The comparison focused on how each approach conceptualizes learning outcomes, translates educational objectives into assessable indicators, and connects curriculum planning with instructional practices and assessment methods. Particular attention was paid to the extent to which values, knowledge, and practical skills were addressed together. The comparative analysis was intended to identify areas where a more integrated conceptual structure could clarify the relationship between educational aims and assessment practices.

The findings from the literature and conceptual analyses were organized into three interrelated domains: Heart, representing values and socio-emotional dispositions; Head, representing knowledge and cognitive processes; and Hand, representing practical skills and the application of learning. Relevant concepts were mapped to these domains and examined for conceptual consistency. The synthesis then informed the development of an assessment matrix linking each domain to proposed learning indicators and potentially appropriate assessment methods. Alignment among learning objectives, instructional activities, and assessment procedures was considered to ensure that the framework could support a coherent approach to evaluating multidimensional learning outcomes.

The framework was reviewed for conceptual coherence, consistency with the literature, and alignment between its proposed domains and assessment indicators. Perspectives from different theoretical traditions were compared to identify inconsistencies and avoid treating the three domains as entirely separate aspects of learning. Because the study was conceptual rather than empirical, the resulting framework should be understood as a theoretically informed proposal rather than a validated assessment instrument. Its practical applicability, measurement properties, and effectiveness in different educational contexts require further investigation.

RESULTS AND DISCUSSION

Result

The 3H framework conceptualizes education as an integrated system comprising: Heart (Educating): Values, ethics, and socio emotional development, operationalized through empathy, integrity, and prosocial behavior. Head (Teaching): Cognitive knowledge and critical thinking, grounded in Bloom's taxonomy. Hand (Training): Skills and performance, including collaboration and problem solving. This triadic structure aligns with contemporary calls for holistic learner development and comprehensive evaluation.

To illustrate its practical applicability, the 3H framework can be implemented within classroom assessment through an integrated evaluation design. For example, in a project-based learning context, students may be assessed simultaneously across the three domains: Heart (demonstrating responsibility, collaboration,

and ethical engagement during group work), Head (demonstrating conceptual understanding and critical analysis in written or oral outputs), and Hand (demonstrating problem-solving skills and the ability to apply knowledge in real-world tasks). Assessment evidence can be collected through a combination of reflective journals, analytical assignments, and performance-based tasks, all aligned within a single evaluative matrix. This integrative approach ensures that assessment captures not only what students know, but also how they think, act, and interact, thereby operationalizing holistic education in measurable and contextually relevant ways.

Operational Evaluation Matrix

To support practical implementation, this study proposes an integrated assessment matrix that links the three domains of the 3H framework Heart (values), Head (knowledge), and Hand (skills) to specific learning indicators and corresponding assessment methods. and evidence-based assessment methods. This matrix is designed to support educators in systematically evaluating holistic learning outcomes across affective, cognitive, and performance dimensions.

Table 1. Operationalization of the 3H (Heart-Head-Hand) Framework Across Learning Dimensions and Assessment Methods

Dimension (3H)	Focus	Key Indicators	Assessment Methods
Heart (H1)	Values and socio-emotional development	Empathy, ethical reasoning, responsibility, self-awareness	Structured observations, reflective journals, peer/self-assessment, socio-emotional learning (SEL) rubrics
Head (H2)	Cognitive competence	Conceptual understanding, analysis, synthesis, critical thinking	Written tests, analytical essays, case-based assessments, concept mapping
Hand (H3)	Skills and performance	Collaboration, problem-solving, application of knowledge, adaptability	Simulations, project-based tasks, performance assessments, authentic tasks

This matrix is informed by contemporary research on authentic assessment, particularly in the evaluation of teamwork, collaboration, and performance-based competencies (Vlachopoulos & Makri, 2024). These insights are systematically extended within the 3H framework by integrating socio-emotional (Heart), cognitive (Head), and performance-based (Hand) dimensions into a unified evaluative structure. In doing so, the matrix not only adopts established principles of authentic assessment but also advances them by providing a more comprehensive and operational model for assessing holistic learning outcomes

Evaluative Implications

The 3H educational framework necessitates a fundamental reorientation of traditional assessment paradigms, shifting from a predominantly cognitive orientation toward a holistic model of evaluative judgment that integrates affective, cognitive, and psychomotor domains. This reconceptualization resonates with the taxonomy proposed by Benjamin Bloom, which underscores that meaningful learning encompasses not only cognitive processes but also affective dispositions and psychomotor skills. However, conventional assessment practices have historically privileged cognitive achievement, often neglecting the equally critical dimensions of character formation and practical competence.

Within the 3H framework, evaluation is conceptualized as a multidimensional process encompassing H1 (educating: affective and moral development), H2 (teaching: cognitive mastery), and

H3 (training: psychomotor and applied competencies). This triadic integration aligns with the global shift toward competency-based education advocated by the Organisation for Economic Co-operation and Development (OECD), particularly through its emphasis on transformative competencies, social-emotional skills, and lifelong learning frameworks. The OECD Learning Compass 2030, for instance, highlights the importance of balancing knowledge, skills, attitudes, and values in preparing learners for complex societal challenges.

Furthermore, the 3H evaluative model is strongly supported by the principles of authentic assessment articulated by Grant Wiggins, who argues that assessment should reflect real-world tasks, promote deep understanding, and engage learners in meaningful performances. Authentic assessment, as opposed to traditional testing, enables educators to capture the complexity of student learning by incorporating performance-based tasks, reflective practices, and contextualized problem-solving.

Recent empirical studies reinforce this paradigm shift. Krooi et al. (2024) demonstrate thatassessment frameworks enhance the validity of evaluation by integrating behavioral and contextual indicators. Similarly, Matsumoto Royo and Ramírez-Montoya (2021) emphasize that performance-based and socio-emotional assessments significantly contribute to higher-order thinking and transferable skills development. These findings further validate the 3H framework as a comprehensive evaluative model that aligns with contemporary educational demands.

In practice, evaluation within the 3H framework should be designed as a continuous, reflective, and evidence-based process. It incorporates diverse assessment methods, including portfolios, project-based learning, peer and self-assessment, and systematic observation of character-driven behaviors. Such an approach ensures alignment between instructional goals and holistic human development, thereby enhancing both the validity and meaningfulness of assessment outcomes.

Ultimately, the 3H framework offers a novel evaluative paradigm that bridges the gap between knowledge acquisition, character education, and skill formation. By integrating these dimensions, it advances a human-centered approach to assessment, positioning evaluation not merely as a tool for measuring academic achievement but as a transformative process that supports the development of the whole person.

Table 2. Performance-Based Assessment Rubric for the 3H (Heart-Head-Hand) Framework

3H Dimension	Assessment Aspect	Level 4 (Excellent)	Level 3 (Proficient)	Level 2 (Basic)	Level 1 (Emerging)	Assessment Methods
H1 (Educating)	Values, attitudes, and character	Demonstrates strong integrity, empathy, and responsibility consistently across contexts	Demonstrates positive attitudes and responsibility in most situations	Demonstrates basic positive attitudes but inconsistently	Shows limited evidence of positive attitudes and responsibility	Observation, reflective journals, peer/self-assessment
H2 (Teaching)	Conceptual understanding and critical thinking	Demonstrates deep understanding; able to analyze, synthesize, and evaluate concepts critically	Demonstrates good understanding and application of concepts	Demonstrates basic understanding with limited application	Demonstrates minimal understanding and inability to apply concepts	Written tests, essays, case analysis

H3 (Training)	Practical skills and performance	Demonstrates highly proficient skills with precision and adaptability in real-world contexts	Demonstrates good skills with minor errors	Demonstrates basic skills but lacks consistency	Demonstrates limited skills below expected standards	Performance tasks, projects, simulations

This perspective is aligned with research emphasizing assessment for learning and sustainable assessment practices (Boud & Soler, 2016; Carless, 2015). Moreover, feedback processes and evaluative judgment are increasingly recognized as essential components of effective assessment systems (Carless & Boud, 2018; Tai et al., 2018).

Discussion

The Conceptual Contribution of the 3H Educational Framework

The conceptual analysis resulted in the development of the 3H (Heart-Head-Hand) Educational Framework, which organizes holistic learning outcomes into three interrelated domains: values and socio-emotional dispositions (Heart), knowledge and cognitive processes (Head), and practical skills and the application of learning (Hand). The framework proposes that these domains should be considered collectively when designing learning objectives and assessment procedures. Rather than treating them as independent categories, the model provides a conceptual structure for examining how values, understanding, and practical performance can contribute to a more comprehensive account of student learning. This approach is consistent with conceptual research that develops theoretical contributions by synthesizing existing perspectives and establishing relationships among previously distinct constructs (Jaakkola, 2020).

The proposed framework can be understood in relation to existing international educational perspectives. The OECD Learning Compass 2030 identifies knowledge, skills, attitudes, and values as important dimensions of future-oriented education and emphasizes the need to contextualize these competencies within different educational settings (OECD, n.d.). Similarly, the Collaborative for Academic, Social, and Emotional Learning (CASEL) framework identifies five interconnected areas of social and emotional competence: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making (CASEL, n.d.). These frameworks provide relevant conceptual foundations for the 3H model, particularly in recognizing that educational outcomes extend beyond the acquisition of academic knowledge. However, the present study does not establish that the 3H framework is superior to these existing approaches. Its proposed contribution lies in organizing values, knowledge, and practical skills within a common structure intended to support curriculum planning and assessment design.

Relationship to Existing Learning and Assessment Theories

The 3H framework also draws on the broader tradition of educational taxonomies that distinguish cognitive, affective, and psychomotor learning outcomes. Bloom and colleagues' work on educational objectives provides an important foundation for classifying learning outcomes, while subsequent developments in educational assessment have emphasized the need to align assessment tasks with intended learning outcomes. The 3H model builds on this tradition by grouping values, knowledge, and practical skills into an integrated conceptual structure. Its purpose is not to replace established taxonomies but to offer a framework through which educators can consider the relationships among these dimensions when planning instruction and evaluating learning.

The distinction between conceptual integration and assessment implementation is particularly important. A framework may identify relevant learning domains without automatically providing valid indicators or reliable measurement procedures for each domain. Consequently, the proposed 3H assessment matrix should be understood as an initial operational structure that requires further development. Each domain needs clearly defined indicators, appropriate assessment tasks, and criteria for interpreting evidence of student learning. Research on assessment as learning, assessment for learning, and assessment of learning supports the importance of considering assessment purposes and practices in relation to one another rather than treating them as isolated activities (Yan et al., 2021). Similarly, reviews of authentic assessment indicate that real-world tasks can support student engagement and the development of transferable competencies, although effective implementation requires appropriate assessment design and institutional support (Vlachopoulos & Makri, 2024).

Practical Implications for Curriculum, Instruction, and Assessment

The proposed framework has potential implications for curriculum development, instructional planning, and assessment practice. At the curriculum level, educators can use the three domains to examine whether learning objectives address values, knowledge, and practical skills in an appropriate and coherent manner. At the instructional level, the framework encourages the selection of learning activities that connect conceptual understanding with reflection, responsible decision-making, and practical application. At the assessment level, it provides a basis for considering different forms of evidence, including written assessments, reflective activities, performance tasks, portfolios, and structured observations. The selection of each method should depend on the intended learning outcome rather than on the assumption that one assessment technique can adequately measure all three domains.

These implications are consistent with research emphasizing the importance of aligning assessment with meaningful learning experiences. McArthur (2023), for example, argues that authentic assessment should be considered in relation to broader educational purposes, including work, well-being, and society, rather than reduced to the reproduction of workplace tasks. Vlachopoulos and Makri (2024) likewise identify the potential of authentic assessment to support critical thinking, problem-solving, and collaboration while noting implementation challenges such as staff resistance and the need for professional development. The 3H framework may help educators organize these considerations within a common planning structure. Nevertheless, its usefulness in actual educational settings remains a proposition to be examined through empirical investigation rather than an established outcome of the present conceptual study.

Research Implications and Future Development

The principal research implication is the need to move from conceptual integration toward systematic instrument development and empirical testing. Future studies should operationally define each 3H domain, develop indicators that are appropriate to particular educational levels and disciplines, and examine whether the proposed assessment matrix can be implemented consistently by educators. Research should also investigate the reliability and validity of the resulting instruments, including whether the indicators adequately represent the intended constructs and whether the three domains can be meaningfully distinguished while remaining interconnected. Comparative studies may subsequently examine how the 3H framework complements existing assessment approaches across different educational contexts. Such investigations would clarify the framework's practical contribution without presuming that conceptual coherence alone establishes measurement validity or educational effectiveness.

This aligns with findings from Teaching and Teacher Education, which highlight the importance of integrating pedagogical design, assessment, and learner development within coherent instructional systems (Darling-Hammond et al., 2020). Furthermore, the 3H framework responds to calls for integrative models that bridge theory and practice in educational evaluation (Bearman & Dawson, 2023).

"Unlike prior frameworks that conceptualize domains in parallel, the 3H model offers a structurally integrated and operational evaluative system that explicitly links values, knowledge, and skills within a single assessment architecture."

Implication Research

The development of the 3H (Heart-Head-Hand) Educational Framework has theoretical, practical, and methodological implications for educational assessment. Theoretically, the framework provides a conceptual structure for examining the relationships among values, knowledge, and practical skills within a holistic approach to learning. By bringing these dimensions together, it offers a basis for further discussion of how affective, cognitive, and psychomotor learning outcomes can be considered within a coherent assessment system. This perspective complements existing approaches to educational objectives and assessment while emphasizing the need to connect different dimensions of learning rather than evaluate them exclusively in isolation (Jaakkola, 2020; Yan et al., 2021).

In practical terms, the framework may assist educators and curriculum developers in aligning learning objectives, instructional activities, and assessment methods. The Heart domain can inform the identification of indicators related to values, attitudes, and socio-emotional dispositions; the Head domain can guide the assessment of knowledge, reasoning, and understanding; and the Hand domain can inform the evaluation of practical performance and the application of knowledge. These domains may be assessed through complementary methods, including reflective tasks, written assessments, performance-based activities, portfolios, and structured observations. The choice of method should depend on the learning objectives and the type of evidence required. This approach is consistent with discussions of authentic assessment that emphasize meaningful applications of learning and the alignment of assessment tasks with broader educational purposes (McArthur, 2023; Vlachopoulos & Makri, 2024).

Methodologically, the proposed framework provides a starting point for developing assessment indicators and instruments that represent the three domains. Future research could investigate the clarity of these indicators, the consistency of their application across assessors, and the validity of the evidence obtained through different assessment methods. Empirical studies could also examine whether the framework is feasible in educational settings with different curricula, institutional resources, and student characteristics. Such investigations are necessary to determine whether the proposed integration can be translated into reliable assessment practices and whether it offers advantages over existing approaches. Until this evidence is available, the 3H framework should be regarded as a conceptual proposal rather than an empirically validated assessment model.

At the institutional and policy levels, the framework may inform discussions about assessment systems that recognize a broader range of learning outcomes than academic achievement alone. Its potential contribution lies in providing a shared structure for considering values, knowledge, and skills in curriculum planning and assessment development. However, implementation would require clear assessment criteria, teacher preparation, appropriate institutional support, and sensitivity to the educational context. Further research should therefore examine not only the framework's conceptual and measurement properties but also the conditions under which educators can apply it consistently and meaningfully.

Limitations And Future Research

Despite its strong conceptual grounding, the 3H framework is not without limitations. First, this study is primarily theoretical in nature, and thus its propositions have not yet been extensively validated through large-scale empirical investigation. While conceptual models are essential for advancing educational theory, their practical relevance depends on rigorous testing across diverse learning environments. Therefore, the current framework should be regarded as a foundational model that requires further empirical substantiation.

Second, translating the three domains of the 3H framework H1 (values and character), H2 (knowledge), and H3 (skills) into measurable assessment criteria presents several methodological challenges. Each domain requires indicators and assessment methods appropriate to the learning outcomes being examined. In particular, values and character development (H1) cannot be adequately assessed through a single measurement or an isolated observation, as their expression may vary across social, cultural, and educational contexts. Their assessment therefore requires carefully defined indicators and multiple sources of evidence, such as structured observations, reflective activities, and contextualized performance tasks. Although knowledge (H2) can often be assessed through established methods, its measurement also depends on the complexity of the intended learning outcomes. Similarly, skills (H3) require assessment tasks that provide sufficient evidence of learners' ability to apply knowledge in relevant situations. These considerations are consistent with the broader emphasis in OECD educational work on developing valid and reliable measures of social-emotional competencies and with CASEL's recognition of the importance of contextual factors in social-emotional learning. Accordingly, the 3H framework requires further development of domain-specific indicators and assessment procedures, followed by empirical testing to establish their validity, reliability, and suitability across different educational settings.

Third, the implementation of the 3H framework may encounter practical constraints, including variations in teacher readiness, institutional support, and curriculum flexibility. Educational systems differ significantly in their capacity to adopt integrative and holistic models, which may affect the scalability and consistency of the framework's application.

In light of these limitations, several directions for future research are proposed. First, empirical studies employing mixed-methods designs are needed to test the validity, reliability, and effectiveness of the 3H framework across different educational levels and cultural settings. Such studies should include experimental or quasi-experimental approaches to examine the impact of the 3H model on student outcomes.

Second, future research should focus on the development and validation of standardized assessment instruments that align with the three dimensions of the 3H framework. This includes the design of rubrics, performance-based assessments, and socio-emotional measurement tools that are both context-sensitive and psychometrically robust.

Third, longitudinal studies are recommended to investigate the long-term impact of the 3H framework on learners' academic achievement, character development, and life skills. This aligns with global research priorities emphasizing lifelong learning and human development.

Finally, comparative and cross-cultural research is essential to examine how the 3H framework can be adapted to different educational systems while maintaining its core principles. Such studies would contribute not only to the validation of the model but also to its refinement as a globally relevant educational framework.

CONCLUSION

This study develops the 3H (Heart-Head-Hand) Educational Framework as a conceptual model for integrating values and character (H1), knowledge (H2), and skills (H3) into educational assessment. The main finding is the formulation of a framework that connects these three domains with curriculum planning, instructional activities, and assessment indicators, providing a conceptual basis for evaluating learning outcomes beyond cognitive achievement alone. The framework may help educators design assessment practices that give consideration to character development, knowledge acquisition, and practical competence. However, the study is limited by its conceptual design and literature-based analysis; therefore, the validity, reliability, and effectiveness of the proposed framework have not yet been established through empirical testing. Future research should develop and validate indicators for each domain, examine the feasibility of applying the framework in different educational settings, and investigate its contribution to student learning outcomes. Such research would clarify the practical value of the 3H framework and determine whether its proposed integration can be translated into reliable and contextually appropriate assessment practices.

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REFERENCES

Bearman, M., & Dawson, P. (2023). Reconceptualising assessment in higher education. *Studies in Educational Evaluation, 76*, Article 101231. https://doi.org/10.1016/j.stueduc.2022.101231

Biesta, G. (2020). *Risking ourselves in education: Qualification, socialization, and subjectification*. Routledge.

Biggs, J. (1996). Enhancing teaching through constructive alignment. *Higher Education, 32*(3), 347–364. https://doi.org/10.1007/BF00138871

Bloom, B. S. (1956). *Taxonomy of educational objectives: The classification of educational goals. Handbook I: Cognitive domain*. David McKay.

Boud, D., & Falchikov, N. (2007). *Rethinking assessment in higher education: Learning for the longer term*. Routledge.

Boud, D., & Soler, R. (2016). Sustainable assessment revisited. *Assessment & Evaluation in Higher Education, 41*(3), 400–413. https://doi.org/10.1080/02602938.2015.1018133

Cao, T. H. P., & Pham, X. T. (2025). Formative assessment for self-regulated learning in English language education: Student perspectives. *VNU Journal of Foreign Studies, 41*(6), 118–134. https://doi.org/10.63023/2525-2445/jfs.ulis.5509

Carless, D. (2015). *Excellence in university assessment: Learning from award-winning practice*. Routledge.

Carless, D., & Boud, D. (2018). The development of student feedback literacy. *Assessment & Evaluation in Higher Education, 43*(8), 1315–1325. https://doi.org/10.1080/02602938.2018.1463354

Cipriano, C., Strambler, M. J., Naples, L. H., Ha, C., Kirk, M., Wood, M., Sehgal, K., Zieher, A. K., Eveleigh, A., McCarthy, M., Funaro, M., Ponnock, A., Chow, J. C., & Durlak, J. (2023). The state of evidence for social and emotional learning: A contemporary meta-analysis of universal school-based SEL interventions. *Child Development, 94*(5), 1181–1204. https://doi.org/10.1111/cdev.13968

Collaborative for Academic, Social, and Emotional Learning. (2023). *CASEL program guide*. https://casel.org/

Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B., & Osher, D. (2020). Implications for educational practice of the science of learning and development. *Educational Researcher, 49*(2), 97–108. https://doi.org/10.3102/0013189X20907396

Deneen, C. C., & Hoo, H.-T. (2023). Connecting teacher and student assessment literacy with self-evaluation and peer feedback. *Assessment & Evaluation in Higher Education, 48*(2), 214–226. https://doi.org/10.1080/02602938.2021.1967284

de Kleijn, R. A. M. (2023). Supporting student and teacher feedback literacy: An instructional model for student feedback processes. *Assessment & Evaluation in Higher Education, 48*(2), 186–200. https://doi.org/10.1080/02602938.2021.1967283

Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis. *Child Development, 82*(1), 405–432. https://doi.org/10.1111/j.1467-8624.2010.01564.x

Fatmawati, A., Purnawarman, P., & Sukyadi, D. (2021). Formative assessment and self-regulated learning during pandemic era. *TELL: Teaching of English Language and Literature Journal, 9*(2), 72–85. https://doi.org/10.30651/tell.v9i2.9305

Gulikers, J. T. M., Bastiaens, T. J., & Kirschner, P. A. (2004). A five-dimensional framework for authentic assessment. *Educational Technology Research and Development, 52*(3), 67–86. https://doi.org/10.1007/BF02504676

Hadzhikoleva, S., Hadzhikolev, E., Gaftandzhieva, S., & Pashev, G. (2025). A conceptual framework for multi-component summative assessment in an e-learning management system. *Frontiers in Education, 10*, Article 1656092. https://doi.org/10.3389/feduc.2025.1656092

Jaakkola, E. (2020). Designing conceptual articles: Four approaches. *Organizational Research Methods, 23*(1), 18–47. https://doi.org/10.1177/1094428119835113

Karunarathne, W., Selman, C., & Ryan, T. (2024). Evaluating student feedback literacies: A study using first-year business and economics students. *Assessment & Evaluation in Higher Education, 49*(4), 471–484. https://doi.org/10.1080/02602938.2023.2267803

Krathwohl, D. R. (2002). A revision of Bloom's taxonomy: An overview. *Theory Into Practice, 41*(4), 212–218. https://doi.org/10.1207/s15430421tip4104_2

Little, T., Dawson, P., Boud, D., & Tai, J. (2024). Can students' feedback literacy be improved? A scoping review of interventions. *Assessment & Evaluation in Higher Education, 49*(1), 39–52. https://doi.org/10.1080/02602938.2023.2177613

Macfarlane, B. (2020). Academic integrity and assessment: A critical review. *Studies in Higher Education, 45*(3), 569–581. https://doi.org/10.1080/03075079.2018.1505729

Matsumoto-Royo, K., & Ramírez-Montoya, M. S. (2021). Core practices in practice-based teacher education: A systematic literature review. *Studies in Educational Evaluation, 70*, Article 101028. https://doi.org/10.1016/j.stueduc.2021.101028

Morris, R., Perry, T., & Wardle, L. (2021). Formative assessment and feedback for learning in higher education: A systematic review. *Review of Education, 9*(3), Article e3292. https://doi.org/10.1002/rev3.3292

Ningsih, P. A. C., & Muntingah, M. (2024). Understanding feedback literacy in higher education: Concepts, practices, and future directions. *Nusantara Education Studies, 2*(1), 72–92. https://doi.org/10.63208/21011-469

Organisation for Economic Co-operation and Development. (2019). *OECD learning compass 2030: A series of concept notes*. OECD Publishing. https://www.oecd.org/education/2030-project/

Organisation for Economic Co-operation and Development. (2021). *Beyond academic learning: First results from the survey of social and emotional skills*. OECD Publishing. https://doi.org/10.1787/92a11084-en

Organisation for Economic Co-operation and Development. (2023). *PISA 2022 assessment and analytical framework*. OECD Publishing. https://doi.org/10.1787/dfe0bf9c-en

Organisation for Economic Co-operation and Development. (2024). *Nurturing social and emotional learning across the globe: Findings from the OECD survey on social and emotional skills 2023*. OECD Publishing.

Panadero, E., Broadbent, J., Boud, D., & Lodge, J. M. (2018). Using formative assessment to influence self- and co-regulated learning. *Educational Psychology Review, 30*, 477–505. https://doi.org/10.1007/s10648-018-9438-9

Quinlan, K. M., Sellei, G., & Fiorucci, W. (2025). Educationally authentic assessment: Reframing authentic assessment in relation to students' meaningful engagement. *Teaching in Higher Education, 30*(3), 717–734. https://doi.org/10.1080/13562517.2024.2394042

Sambell, K., McDowell, L., & Montgomery, C. (2013). *Assessment for learning in higher education*. Routledge.

Schleicher, A. (2020). *World class: How to build a 21st-century school system*. OECD Publishing.

Sokhanvar, Z., Salehi, K., & Sokhanvar, F. (2021). Advantages of authentic assessment for improving the learning experience and employability skills of higher education students. *Studies in Educational Evaluation, 70*, Article 101030. https://doi.org/10.1016/j.stueduc.2021.101030

Tai, J., Ajjawi, R., Boud, D., Dawson, P., & Panadero, E. (2018). Developing evaluative judgement: Enabling students to make decisions about the quality of work. *Assessment & Evaluation in Higher Education, 43*(3), 467–481. https://doi.org/10.1080/02602938.2017.1330334

Taylor, R. D., Oberle, E., Durlak, J. A., & Weissberg, R. P. (2017). Promoting positive youth development through school-based social and emotional learning interventions. *Child Development, 88*(4), 1156–1171. https://doi.org/10.1111/cdev.12864

van der Linden, J., van der Vleuten, C., Nieuwenhuis, L., et al. (2023). Formative use of assessment to foster self-regulated learning: The alignment of teachers' conceptions and classroom assessment practices. *Journal of Formative Design in Learning, 7*, 195–207. https://doi.org/10.1007/s41686-023-00082-8

Veugen, M. J., Gulikers, J. T. M., & den Brok, P. (2024). Secondary school teachers' use of formative assessment practice to create co-regulated learning. *Journal of Formative Design in Learning, 8*, 15–32. https://doi.org/10.1007/s41686-024-00089-9

Vlachopoulos, D., & Makri, A. (2024). A systematic literature review on authentic assessment in higher education: Best practices for the development of 21st century skills, and policy considerations. *Studies in Educational Evaluation, 83*, Article 101425. https://doi.org/10.1016/j.stueduc.2024.101425

Wang, M. T., Eccles, J. S., & Kenny, S. (2022). Social-emotional learning and academic outcomes: A meta-analysis. *Review of Educational Research, 92*(2), 261–310. https://doi.org/10.3102/00346543211045642

Wiggins, G. (1998). *Educative assessment: Designing assessments to inform and improve student performance*. Jossey-Bass.

Wiggins, G., & McTighe, J. (2005). *Understanding by design* (Expanded 2nd ed.). ASCD.

Wongvorachan, T., Bulut, O., Tsai, Y.-S., & Lindner, M. A. (2022). Improving student feedback literacy in e-assessments: A framework for the higher education context. *Trends in Higher Education, 1*(1), 16–29. https://doi.org/10.3390/higheredu1010002

Xie, J., Cho, K. W., Wei, T., Xu, J., & Fan, M. (2025). The effects of academic emotions on learning outcomes: A three-level meta-analysis of research conducted between 2000 and 2024. *Learning and Motivation, 90*, Article 102109. https://doi.org/10.1016/j.lmot.2025.102109

Yu, S., & Liu, C. (2021). Improving student feedback literacy in academic writing: An evidence-based framework. *Assessing Writing, 48*, Article 100525. https://doi.org/10.1016/j.asw.2021.100525

Zhan, Y. (2022). Developing and validating a student feedback literacy scale. *Assessment & Evaluation in Higher Education, 47*(7), 1087–1100. https://doi.org/10.1080/02602938.2021.2001430

Zhao, Y., & Sang, B. (2025). The effect of social-emotional learning programs on elementary and middle school students' academic achievement: A meta-analytic review. *Behavioral Sciences, 15*(11), Article 1527. https://doi.org/10.3390/bs15111527