

Score vs Moral Value: Reframing Portfolio Assessment through the Education Model for All-to-One in Higher Education

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Abstract

The dominance of score-based assessment in higher education has long been justified by its capacity to ensure standardisation, comparability, and accountability. However, such approaches are increasingly insufficient in capturing the reflective, ethical, and autonomy-related dimensions of student development, particularly in the era of human-AI interaction. Drawing on the philosophical framework of Immanuel Kant and supported by contemporary theories of motivation and assessment, this study proposes a conceptual reorientation that integrates score and moral value within higher education assessment. Using semi-systematic literature review-based approach grounded in Google Scholar data, this study synthesises research on assessment theory, portfolio assessment, learner autonomy, recognition of prior learning, and AI-mediated education. The analysis leads to the development of a dual assessment framework-Score vs Moral Value-operationalised through portfolio assessment and embedded within the Education Model for All-to-One. This model combines standardised evaluation of cognitive achievement with reflective portfolio practices that capture students' reasoning, identity, and moral agency, while supporting flexible learning pathways aligned with diverse graduate profiles. The study contributes theoretically by reframing portfolio assessment as a moral and reflective practice grounded in philosophical and psychological perspectives, and practically by proposing an integrated assessment-curriculum model that links higher education with individual and societal needs. In the context of AI-driven educational transformation, the framework offers a more authentic and future-oriented approach to assessment, shifting the focus from what students achieve to who they become as autonomous and ethically responsible individuals.

1. Introduction

The dominance of score-based assessment in higher education-manifested through summative examinations, standardized testing, and numerical grading-has long been positioned as the primary indicator of academic achievement. While such approaches offer comparability, scalability, and administrative efficiency, a growing body of scholarship has highlighted their inherent limitations, particularly in reducing learning to quantifiable outputs while neglecting reflective, moral, and autonomy-related dimensions of student development (Boud & Falchikov, 2007; Biesta, 2015). In the context of ongoing transformations in higher education-characterized by flexible learning pathways, recognition of prior learning, and the expansion of experiential education-the inadequacy of purely score-based paradigms becomes increasingly evident (Harris et al., 2014; Wheelahan, 2015). This raises a

fundamental question: to what extent do quantitative scores adequately represent holistic student development, and should moral value be reintegrated as an essential dimension of assessment?

From a philosophical perspective, this concern can be critically examined through the framework of Immanuel Kant, who positions moral autonomy as central to human existence. Kant argues that rational individuals act not merely on external incentives but on universal moral principles derived from practical reason (Kant, 1993; 1996). Within higher education, this implies that assessment should not function solely as a mechanism for performance measurement but also as a medium for cultivating autonomous moral agents. When assessment systems are dominated by scores, there is a risk that students' motivation becomes heteronomous-driven by external rewards and sanctions-thereby undermining their capacity for critical

reflection and moral responsibility. This concern is reinforced by Self-Determination Theory developed by [Ryan and Deci \(2000\)](#), which demonstrates that overreliance on external evaluation can weaken intrinsic motivation and learner autonomy. Moreover, limiting assessment to standardized outputs constrains students' freedom as adult learners to explore and actualize their individual capabilities, potentially undermining the transformative aims of higher education as a space for personal and societal development ([Barnett, 2007](#); [Biesta, 2015](#)).

In response to these limitations, portfolio assessment has gained increasing recognition as a more holistic approach capable of capturing the complexity of learning processes. A systematic review by [Lam \(2017\)](#) demonstrates that portfolios not only document learning outcomes but also make visible students' cognitive processes, self-reflection, and metacognitive development. Furthermore, [Lam \(2016\)](#) conceptualizes portfolio assessment within the framework of *assessment as learning*, where students actively engage in cycles of reflection, self-evaluation, and strategic improvement. In the era of human-AI interaction, concerns regarding the authenticity, authorship, and originality of student work further challenge the validity of traditional testing formats, which are often unable to capture higher-order thinking and genuine knowledge construction ([Bearman et al., 2023](#); [Cotton et al., 2023](#)). In this sense, portfolios function as epistemic spaces that enable students to construct meaning from their learning experiences while strengthening their autonomy—an aspect closely aligned with the Kantian notion of moral value.

Recent empirical evidence further supports the effectiveness of this approach. For example, [Al-Rashidi et al. \(2023\)](#) found that portfolio-based assessment significantly improves learning outcomes compared to conventional methods, while also fostering deeper cognitive engagement. Importantly, the study highlights that portfolios capture complex internal processes, including reflection, self-regulation, and active participation in learning. These findings reinforce the argument that portfolio assessment can serve as a bridge between performance measurement (score) and the development of meaning and moral value.

However, integrating score and moral

value within assessment practices is not without ethical complexity. Assessment is inherently a value-laden practice with significant implications for student agency. [Buzzelli \(2018\)](#) argues that assessment must consider not only academic achievement but also learners' capabilities as agents who exercise autonomy within educational contexts. This creates a fundamental tension between accountability demands—often operationalized through scoring systems—and the ethical imperative to respect student autonomy. Recent research by [Lipponen et al. \(2024\)](#) further illustrates how educators experience ethical dilemmas when balancing institutional requirements with moral considerations, suggesting that reflective and collaborative approaches are necessary to negotiate these tensions.

Building on this body of literature, this article—employing a literature-based approach grounded in Google Scholar data—proposes a conceptual reorientation of assessment through the integration of *score* and *moral value*, operationalised via portfolio assessment as a dual assessment model. This model is further embedded within the Education Model for All-to-One, which aligns assessment with flexible curriculum structures, personalised learning pathways, and diverse graduate profiles. Within this framework, scores function as regulatory instruments that ensure accountability and comparability, while portfolios serve as reflective mechanisms for capturing moral dimensions, autonomy, and learner identity. Such an approach enables students to actively construct their learning trajectories based on their preferences, experiences, and competencies, consistent with principles of recognition of prior learning and evolving labor market demands ([Harris et al., 2014](#)).

Ultimately, the integration of score and moral value through portfolio assessment represents not only a pedagogical innovation but also an epistemic and ethical reorientation of assessment in higher education. In line with Kantian philosophy, meaningful education should not merely produce high-performing individuals in numerical terms but should cultivate moral agents capable of acting upon universal rational principles. Reframing assessment in this way is essential to ensure that higher education does not simply measure what students know, but also shapes who they become as autonomous and ethically

responsible individuals in an increasingly complex and AI-mediated world.

2. Literature Reviews

a. The Purpose of Education in the Era of Human-AI Interaction

Within moral philosophy, Immanuel Kant conceptualises human beings as rational agents endowed with the capacity for moral autonomy—that is, the ability to act according to self-legislated principles derived from practical reason rather than external impulses (Kant, 1996). From this perspective, human nature is not reducible to cognitive ability alone but is fundamentally defined by the capacity for moral judgment, responsibility, and self-legislation. The implications for education are therefore profound: the purpose of education extends beyond the acquisition of knowledge or measurable competencies toward the cultivation of individuals as autonomous moral agents capable of reasoning, judging, and acting upon universal principles. This Kantian orientation directly challenges contemporary educational systems that privilege quantifiable outcomes, particularly where assessment practices are dominated by numerical scoring systems that marginalise moral value.

Kant further argues that education must enable individuals to use their freedom rightly—not as unrestrained choice, but as the capacity to act in accordance with moral law (Kant, 2007). As elaborated by Loudon (2011), Kantian moral education involves the development of discipline, culture, and morality: discipline restrains impulsive tendencies, culture cultivates intellectual capacities, and morality directs individuals toward principled action. Within this framework, assessment cannot be confined to measuring academic performance; it must also engage with the moral development of learners. However, contemporary education systems have increasingly shifted toward what Higgins (2011a) describes as an *evaluation culture*, where grades, rankings, and measurable outputs dominate educational priorities. While such systems enhance reliability and comparability, they risk narrowing the purpose of education by neglecting reflective and ethical dimensions of human development.

This tension becomes more acute in the era of human-AI interaction. Advances in artificial intelligence are reshaping the

epistemic conditions of learning by destabilising traditional notions of authorship, originality, and knowledge production. Emerging scholarship suggests that conventional assessment formats—such as standardised tests and written examinations—are increasingly insufficient for capturing authentic learning, as AI tools can generate high-quality outputs without necessarily reflecting students' understanding or intentionality (Bearman et al., 2023; Cotton et al., 2023). As a result, the reliance on score-based assessment becomes epistemologically fragile, as it measures outputs that may no longer reliably correspond to internal cognitive or moral processes. In this context, the central question shifts from what students produce to who they become as learners and moral agents.

The concept of *moral value* therefore emerges as a critical dimension of assessment. Moral value refers not merely to observable performance but to the quality of intention, reasoning, reflection, and meaning-making underlying students' actions. Such dimensions cannot be adequately captured through numerical scores alone; rather, they require process-oriented and reflective forms of assessment. Portfolio assessment offers a compelling alternative in this regard. As demonstrated by Lam (2016), portfolios function as *assessment as learning*, enabling students to document their learning processes, engage in self-reflection, and construct meaning from their experiences. This aligns closely with the Kantian view that moral agency develops through rational reflection rather than external compliance.

Moreover, Kant's principle that human beings must be treated as ends in themselves (Kant, 2007; Sensen, 2011) carries significant implications for assessment practices. Score-dominated systems risk objectifying students as measurable entities, reducing their educational experience to numerical outputs while overlooking their individuality and moral development. In contrast, portfolio assessment enables more personalised and dialogic forms of evaluation, positioning students as active subjects who articulate their learning journeys, values, and identities. In doing so, portfolios support the development of autonomy and self-legislation—core elements of both Kantian ethics and contemporary theories of self-regulated learning.

Empirical research further reinforces the value of this approach. For instance, [Al-Rashidi et al. \(2023\)](#) demonstrate that portfolio-based assessment enhances not only learning outcomes but also students' reflective capacities and engagement with the learning process. While the study focuses on linguistic development, its findings indicate that portfolios foster goal clarity, agency, and deeper meaning-making—key components of moral development within a Kantian framework. Similarly, research on assessment ethics underscores the inherently moral nature of evaluation practices. [Buzzelli \(2018\)](#) argues that assessment involves ethical judgments concerning fairness, representation, and respect for student agency, while [Lipponen et al. \(2024\)](#) show that educators frequently encounter tensions between institutional accountability and moral responsibility. From a Kantian perspective, these tensions reflect the broader conflict between heteronomous demands and the moral obligation to respect learners' autonomy and dignity.

Taken together, these philosophical, empirical, and contextual insights point to the need for a fundamental reorientation of assessment in higher education. In the era of human–AI interaction, where traditional indicators of performance are increasingly unstable, education must move beyond exclusive reliance on scores toward more holistic models that integrate moral value. Portfolio-based assessment provides a viable pathway for this transformation by capturing not only what students achieve but also how they think, reflect, and act as moral agents. In this sense, assessment must be reconceptualised not only as a technical practice but also as an ethical and epistemic endeavour aligned with the broader purpose of education.

b. Assessment Paradigm Challenge in the Era of Human–AI interaction

Quantitative scoring has become the dominant paradigm for measuring student achievement in modern education. Numerical grading, standardised testing, and large-scale assessments are widely adopted due to their perceived objectivity, reliability, and efficiency. However, this dominance carries significant epistemological, pedagogical, and moral implications that warrant critical examination. As [Lingard et al. \(2015\)](#) argue,

contemporary education is increasingly shaped by a technocratic and managerial logic in which numerical indicators function not only as evaluation tools but also as the primary language of accountability, policy-making, and institutional performance. In this context, scores transcend their evaluative function and become central to how educational success is defined and legitimised.

Historically, the rise of score-based assessment is closely associated with the expansion of measurement-driven instruction and accountability movements. Large-scale assessments have institutionalised scores as global benchmarks for educational quality. However, critics have highlighted unintended consequences of this paradigm. [Ravitch \(2010\)](#) argues that an emphasis on testing fosters curriculum narrowing—commonly referred to as *teaching to the test*—while [Au \(2011\)](#) demonstrates that such pressures constrain opportunities for critical thinking, creativity, and meaningful learning. These findings suggest that score-based systems, while administratively efficient, may undermine broader educational aims.

Despite these limitations, the utility of scores cannot be entirely dismissed. Quantitative measures provide structure, comparability, and diagnostic value, particularly in large-scale systems. Evidence suggests that scores can reliably indicate foundational competencies in domains such as literacy and numeracy ([Wyatt-Smith & Jackson, 2020](#)). From a policy perspective, scores enable data-driven decision-making and monitoring of educational progress. As [Brookhart \(2020\)](#) notes, when appropriately used, quantitative assessment can support learning by identifying gaps and informing targeted interventions. Thus, the issue lies not in the existence of scores, but in their dominance as the sole representation of learning.

The pedagogical risks associated with this dominance are substantial. First, score-based assessment reduces learning to measurable outcomes, overlooking the processes through which knowledge is constructed. [Shepard \(2000\)](#) argues that traditional assessment often captures surface-level performance rather than deep understanding. Second, the emphasis on scores promotes extrinsic motivation, shifting students' focus from meaningful learning to performance outcomes ([Kohn, 2011](#)). Third, scores are inherently

limited in representing complex dimensions of human development, including moral reasoning, social awareness, and identity formation.

These limitations become particularly pronounced in the era of human-AI interaction. The increasing accessibility of generative AI technologies challenges the validity of traditional assessment formats, especially those reliant on standardised outputs. As highlighted by Bearman et al. (2023) and Cotton et al. (2023), AI tools can generate high-quality responses that may not reflect students' understanding, thereby weakening the link between performance and learning. Consequently, the epistemological foundation of score-based assessment becomes increasingly unstable, necessitating a reconsideration of what constitutes valid evidence of learning.

From a philosophical perspective, these concerns resonate with Kant's view that the value of human action lies not in external outcomes but in the principles and intentions underlying it. Score-based systems, by privileging outputs, risk fostering heteronomous behaviour-actions driven by external rewards rather than internal moral reasoning. This creates a paradox in education, where students may achieve high scores without developing the reflective capacities required for moral autonomy. Thus, the dominance of score-based assessment reflects not only a technical limitation but also a deeper philosophical misalignment between the aims of education and the means of evaluation.

Furthermore, the centrality of scores reinforces competitive structures within education systems. Scores are frequently used for ranking and selection, producing hierarchies that generate psychological pressure and encourage performance-avoidance strategies (Stobart, 2018). Such dynamics shift learning motivations away from principled understanding toward fear of failure or desire for external validation, which is inconsistent with the development of autonomous and morally grounded individuals.

Equity concerns further complicate the reliance on score-based assessment. Scores are influenced by socio-economic background, access to resources, and contextual factors beyond students' control (Earp, 2018). Consequently, they may reproduce structural

inequalities rather than accurately reflect individual potential. From a Kantian perspective, this raises ethical concerns, as reducing individuals to numerical outputs risks instrumentalising them rather than recognising their inherent dignity.

Nevertheless, scores retain an important role when repositioned within a broader assessment ecosystem. Rather than being abandoned, they should function as one component among multiple forms of evidence. Integrating score-based assessment with reflective approaches-particularly portfolio assessment-offers a more comprehensive understanding of student development. While scores provide concise indicators of academic performance, portfolios capture processes, intentions, and meaning-making, thereby addressing dimensions of learning that scores alone cannot represent.

Accordingly, the paradigm of assessment in modern education requires a shift from score dominance toward a more balanced and human-centred approach. This reconfiguration provides the conceptual foundation for the dual assessment model-Score vs Moral Value-, in which quantitative measures and reflective practices operate in a complementary manner. Such an approach aligns assessment with the broader purpose of education: not merely to measure what students achieve, but to support the development of autonomous individuals capable of meaningful participation in an increasingly complex and technologically mediated world.

3. Method

This study employs a semi-systematic literature review to synthesise interdisciplinary scholarship on higher education assessment, with particular emphasis on the integration of *score* and *moral value* through portfolio assessment in the era of human-AI interaction. A semi-systematic approach is adopted because it enables the integration of diverse theoretical and empirical perspectives while maintaining analytical rigour and transparency, making it particularly suitable for conceptually complex and emerging research areas (Snyder, 2019). Unlike fully systematic reviews, this approach allows for conceptual flexibility, which is necessary to bridge philosophical, pedagogical, and technological dimensions within a unified analytical framework.

The literature search was conducted primarily using Google Scholar as the principal database, due to its broad coverage of peer-reviewed journal articles, books, and interdisciplinary publications. This choice is methodologically justified by the need to capture literature across multiple domains—including education, philosophy, psychology, and educational technology—that underpin the conceptual development of this study (Haddaway et al., 2015). To enhance transparency and reproducibility, the search process followed a structured procedure informed by PRISMA principles, including stages of identification, screening, eligibility assessment, and inclusion.

Search queries were developed iteratively in alignment with the study's conceptual focus. Key search terms included combinations of "portfolio assessment", "assessment as learning", "moral value", "Kantian autonomy", "self-determination theory", "AI in education", "higher education assessment", and "recognition of prior learning". Boolean operators (AND, OR) were applied to refine the search strategy. The scope was limited to English-language publications published between 2000 and 2024, ensuring coverage of both foundational theories and recent developments, particularly those related to AI-mediated assessment.

A total of 45 sources were included in the final analysis. Selection prioritised peer-reviewed journal articles indexed in Scopus, complemented by seminal theoretical works and recent empirical studies. This composition aligns with patterns observed in contemporary reviews in the field, including studies on AI and assessment (e.g., Bearman et al., 2023) and portfolio-based learning (Lam, 2017), thereby supporting the adequacy and representativeness of the dataset.

Data extraction was guided by the conceptual framework underpinning this study and focused on five analytical dimensions: (1) the role and limitations of score-based assessment; (2) conceptualisations of moral value, autonomy, and learner agency; (3) empirical evidence on portfolio assessment practices; (4) theoretical foundations, particularly Kantian ethics and Self-Determination Theory; and (5) emerging challenges associated with artificial intelligence and assessment validity. The analysis employed a thematic synthesis approach, enabling the identification of

recurring patterns, conceptual tensions, and integrative insights across the selected literature (Braun & Clarke, 2006). Themes were iteratively refined to construct a coherent narrative linking assessment practices with broader philosophical and pedagogical concerns.

To enhance the credibility of the review, the study adopted a triangulation strategy across disciplinary perspectives, integrating insights from education, philosophy, psychology, and digital learning research. Priority was given to highly cited and recent publications in high-impact journals to ensure both theoretical robustness and contemporary relevance. In particular, emerging scholarship on AI-mediated assessment highlights the increasing need for authentic and process-oriented evaluation approaches, reinforcing the relevance of portfolio assessment in capturing complex and reflective dimensions of learning (Bearman et al., 2023; Cotton et al., 2023).

Through this structured and integrative methodological approach, the study provides a robust foundation for the development of the Score vs Moral Value framework, operationalised through portfolio assessment and situated within the Education Model for All-to-One. By synthesising interdisciplinary insights and addressing emerging challenges in the era of human-AI interaction, this review positions assessment not only as a technical practice but also as an epistemic and moral endeavour in contemporary higher education.

4. Results and Discussion

a. Portfolio Assessment as Moral and Reflective Practice

The synthesis of the reviewed literature reveals that portfolio assessment constitutes a fundamental reconfiguration of assessment from a predominantly technical instrument into a moral and reflective practice. In contrast to score-dominated systems that prioritise measurable outputs, portfolio assessment captures the underlying processes of learning, including intention, reflection, and meaning-making. This shift is particularly salient in contemporary higher education, where learning is increasingly complex, non-linear, and mediated by artificial intelligence, thereby requiring assessment approaches capable of evidencing not only what students produce but how and why they engage in learning.

From a theoretical perspective, portfolio

assessment aligns closely with the Kantian conception of moral agency, in which the value of action is determined not by its external outcomes but by the principles and reasoning that guide it. Within this framework, assessment that relies exclusively on scores is epistemically limited, as it captures performance without adequately representing the internal dimensions of reasoning and intentionality. Portfolio assessment addresses this limitation by enabling students to document, justify, and critically reflect upon their learning trajectories. In doing so, it repositions students as autonomous agents who actively construct and evaluate their own learning, rather than as passive recipients of externally imposed evaluation.

This orientation is further substantiated by Self-Determination Theory (Ryan & Deci, 2000), which emphasises the centrality of autonomy, competence, and relatedness in meaningful learning. The literature indicates that portfolio-based practices inherently support these psychological dimensions. Autonomy is enacted through students' capacity to select, curate, and represent their work; competence is developed through iterative cycles of feedback and revision; and relatedness is fostered through dialogic engagement between learners and educators حول the interpretation and value of learning. Importantly, these processes contribute to the internalisation of learning goals, thereby aligning motivational structures with the Kantian notion of self-legislation.

The findings also highlight that portfolio assessment is best understood within the paradigm of *assessment as learning*, where assessment functions as an integral component of knowledge construction rather than a post hoc measurement tool (Lam, 2016). Through recursive processes of documentation, reflection, and refinement, students develop metacognitive awareness and evaluative judgment. These capacities are critical not only for academic development but also for moral reasoning, as they enable learners to interrogate assumptions, justify decisions, and take responsibility for their actions. As demonstrated in the literature (Lam, 2017), portfolios make visible otherwise inaccessible dimensions of learning, including cognitive strategies, identity formation, and self-regulation.

The relevance of portfolio assessment is further intensified in the era of human-AI

interaction. The reviewed studies indicate that traditional assessment formats-particularly those based on standardised outputs-are increasingly vulnerable to issues of authenticity and validity, as generative AI technologies can produce high-quality artefacts that do not necessarily reflect students' understanding or intention (Bearman et al., 2023; Cotton et al., 2023). In contrast, portfolio assessment foregrounds process, provenance, and reflection, thereby providing more robust evidence of authentic learning. By requiring students to articulate their decision-making processes and demonstrate iterative development, portfolios mitigate the epistemic risks associated with AI-mediated knowledge production.

Beyond epistemic considerations, the findings underscore the inherently ethical nature of assessment. Assessment practices shape not only academic outcomes but also learners' identities, agency, and future opportunities. Portfolio assessment contributes to a more ethically responsive model by enabling inclusive and personalised forms of evaluation. Rather than imposing uniform standards, portfolios accommodate diverse learning pathways and recognise varied forms of knowledge, which is particularly relevant in the context of Recognition of Prior Learning (Harris et al., 2014). This flexibility aligns with the broader aim of higher education to support diverse learner trajectories within increasingly complex and dynamic environments.

Empirical evidence further reinforces these conceptual insights. Studies indicate that portfolio-based assessment enhances not only academic performance but also student engagement, self-regulation, and clarity of learning goals (Al-Rashidi et al., 2023). These outcomes suggest that portfolios contribute to the development of learners as active and responsible agents, capable of directing their own learning in alignment with internally endorsed values. Such agency is central to both Kantian ethics and contemporary learning theories, highlighting the integrative potential of portfolio assessment across philosophical and pedagogical domains.

However, the findings also identify several implementation challenges, particularly in relation to reliability, scalability, and standardisation. Concerns regarding subjectivity and consistency remain salient, especially in large-scale higher

education systems. Nevertheless, the literature suggests that these challenges are not inherent limitations but rather issues of design and governance. The use of well-defined rubrics, collaborative moderation practices, and digital portfolio platforms can enhance transparency and comparability without undermining the reflective and personalised nature of portfolio assessment (Boud & Falchikov, 2007; Bearman et al., 2023).

Taken together, these findings support the positioning of portfolio assessment as a central component of a dual assessment model that integrates score and moral value. Within this model, scores retain their function as efficient indicators of performance and comparability, while portfolios capture the deeper dimensions of learning, including reflection, intention, and moral reasoning. This integration enables a more comprehensive and balanced representation of student development, addressing both the technical and ethical purposes of assessment.

Ultimately, the results demonstrate that portfolio assessment does not merely complement existing assessment practices but fundamentally redefines their purpose. By foregrounding reflection, autonomy, and meaning-making, it transforms assessment into a process that both evidences and cultivates learning. In the context of human-AI interaction, this shift is not only pedagogically desirable but epistemically necessary, positioning portfolio assessment as a key mechanism for aligning higher education assessment with the complexity of contemporary learning and the development of morally autonomous individuals.

b. All-to-One Education Model for Linking Higher Education and its Need

Building upon the integration of *score* and *moral value* through portfolio assessment, the synthesis of the literature advances the Education Model for All-to-One as a conceptual mechanism for aligning higher education with diverse learner needs and evolving societal demands. The findings indicate that conventional higher education systems remain largely structured around standardised learning pathways and uniform evaluation metrics, which inadequately capture the heterogeneity of learners' aspirations, experiences, and developmental trajectories. In response, the proposed model repositions

higher education as a system that simultaneously sustains collective accountability (*all*) while recognising individualised learning trajectories (*one*).

From a philosophical standpoint, this model is grounded in the Kantian principle that individuals possess intrinsic dignity and must be treated as ends in themselves rather than as means to external objectives (Kant, 2007; Sensen, 2011). Within this perspective, the reduction of education to measurable outputs—primarily operationalised through score-based assessment—reflects an instrumental view of human development. The findings suggest that such a paradigm constrains the development of moral autonomy by privileging externally validated performance over internally grounded reasoning. The Education Model for All-to-One addresses this limitation by repositioning autonomy, moral reflection, and meaning-making as central organising principles of curriculum and assessment.

At the structural level, the model proposes a two-phase curriculum architecture. The first phase consists of foundational coursework designed to establish core disciplinary knowledge and essential competencies. The second phase introduces structured learner autonomy, enabling students to select pathways aligned with predefined graduate profiles, including industry-based internships, research-oriented tracks, entrepreneurial pathways, and community-engaged projects. This structure reflects broader developments in flexible learning systems and the recognition of prior learning (RPL), which acknowledge that knowledge is acquired across diverse formal and informal contexts (Harris et al., 2014). The findings indicate that such flexibility enhances alignment between higher education and labour market relevance while supporting personalised learning trajectories.

Within this architecture, assessment emerges as the central integrative mechanism through a dual-assessment system. Quantitative scores are retained as concise indicators of academic performance, ensuring comparability and fulfilling institutional accountability requirements. However, these are complemented by portfolio-based assessment, which captures reflective, process-oriented, and ethical dimensions of learning. Importantly, the findings emphasise that these two forms of assessment should not

be collapsed into a single metric, as they represent distinct epistemological domains. Instead, they function as parallel and complementary dimensions, enabling a more comprehensive representation of student development (Gulikers et al., 2004; Wyatt-Smith & Klenowski, 2014).

Portfolio assessment, within this model, functions as a mechanism for cultivating what Kantian philosophy conceptualises as practical reason. Through structured reflection on learning experiences, decision-making processes, and ethical considerations, students are required to articulate the reasoning underlying their actions. This reflective process supports the development of self-regulation, moral awareness, and autonomous judgment, which are critical competencies in complex professional environments. The findings align with broader literature indicating that moral development is inherently deliberative and cannot be adequately captured through standardised testing alone (Narvaez & Lapsley, 2016).

The model further highlights the importance of inclusivity and developmental variability. Unlike standardised systems that assume linear progression, the Education Model for All-to-One acknowledges that learning is non-linear and context-dependent. Portfolio-based approaches enable educators to capture these diverse trajectories, providing a more nuanced understanding of student growth (Tirri, 2018). This aligns with contemporary perspectives on personalised learning and learner agency, which advocate for adaptive educational systems responsive to individual needs and potentials (OECD, 2018; Hattie, 2012).

In addition, the “all” dimension of the model underscores the collective nature of learning. The findings indicate that effective implementation requires collaborative engagement among students, educators, institutions, and external stakeholders. Dialogic assessment practices—including peer feedback, reflective dialogue, and collaborative evaluation—emerge as critical mechanisms for fostering moral reasoning and perspective-taking (Higgins, 2011b). These practices contribute to the development of learning communities that strengthen both individual agency and collective responsibility.

From a policy perspective, the model provides a reconciliatory framework between standardisation and humanistic education.

Rather than privileging one paradigm over the other, it integrates both by recognising their distinct roles within the educational process. This aligns with Biesta’s (2010) conceptualisation of education as encompassing qualification, socialisation, and subjectification. The findings suggest that the Education Model for All-to-One operationalises subjectification within a structured and accountable system, thereby ensuring that the development of autonomous individuals remains central to higher education.

The relevance of this model is further amplified in the context of human-AI interaction. As generative AI increasingly mediates knowledge production, traditional assessment systems that rely on static outputs become epistemologically unstable. The findings indicate that the combination of flexible curriculum pathways and portfolio-based assessment provides a more robust framework for capturing authentic learning processes, including reflection, iteration, and meaning-making-dimensions that are difficult to assess through conventional methods (Bearman et al., 2023; Cotton et al., 2023).

Overall, the results position the Education Model for All-to-One as both a pedagogical innovation and a philosophical reorientation of higher education. By integrating score and moral value within a flexible and inclusive framework, the model reconceptualises education as a process that develops not only academic competence but also moral agency. In doing so, it responds to contemporary challenges related to diversity, accountability, and technological transformation, while reaffirming the Kantian vision of education as the formation of autonomous and ethically grounded individuals.

c. Discussion and Theoretical Contribution

This study critically re-examines the entrenched dominance of score-based assessment in higher education and advances a theoretically integrated framework that positions moral value as a co-equal dimension of evaluation through portfolio assessment within the Education Model for All-to-One. The synthesis demonstrates that, although score-based systems remain indispensable for standardisation, comparability, and institutional accountability, they are epistemologically insufficient for capturing the

reflective, intentional, and process-oriented dimensions of learning. This limitation becomes particularly acute in the era of human-AI interaction, where the relationship between observable outputs and authentic understanding is increasingly unstable, thereby weakening the validity claims of conventional assessment practices (Bearman et al., 2023; Cotton et al., 2023).

From a philosophical perspective, the study reasserts the relevance of Kantian ethics as a critical foundation for contemporary assessment discourse. Kant's conception of autonomy and moral agency foregrounds the importance of internal reasoning and principled action, challenging assessment systems that privilege external performance indicators. In parallel, Self-Determination Theory (Ryan & Deci, 2000) provides empirical grounding for this critique by demonstrating that overreliance on external evaluation—such as scores—tends to undermine intrinsic motivation, self-regulation, and learner agency. Taken together, these perspectives expose a fundamental misalignment between dominant assessment regimes and the broader educational purpose of cultivating autonomous, morally responsible individuals.

The central theoretical contribution of this study lies in the articulation of a dual assessment model (Score vs Moral Value) embedded within the Education Model for All-to-One. This framework reconceptualises assessment as both a technical and moral practice by integrating two epistemologically distinct yet complementary dimensions. On the one hand, scores function as regulatory instruments that provide measurable indicators of cognitive achievement and enable system-level comparability. On the other hand, portfolio assessment operates as a reflective mechanism that captures the underlying processes of learning, including intention, reasoning, and identity formation. By maintaining the distinction rather than collapsing these dimensions into a single metric, the model addresses a longstanding tension in assessment theory between reliability and authenticity, offering a more coherent and balanced evaluative architecture.

Importantly, this study extends the literature on portfolio assessment by repositioning it not merely as a pedagogical tool for reflection but as a moral and epistemic

practice grounded in philosophical and psychological theory. While prior research has established the role of portfolios in fostering metacognition and self-regulated learning (Lam, 2017), this study advances the argument that portfolios function as sites for the development of *practical reason*. In this sense, assessment shifts from evaluating *what students produce* to interrogating *why and how they act*, thereby foregrounding intentionality as a core dimension of learning. This reframing represents a significant conceptual advancement, particularly in the context of AI-mediated education, where process-based evidence becomes more critical than product-based outputs.

The incorporation of the Education Model for All-to-One further strengthens the contribution by situating the dual assessment model within a broader structural and policy-oriented framework. Unlike conventional systems that standardise learning pathways, this model recognises the diversity of learner trajectories and aligns curriculum design with personalised graduate profiles. Through flexible pathways—such as industry engagement, research tracks, entrepreneurial initiatives, and community-based learning—the model operationalises learner autonomy within an accountable system. This integration aligns with contemporary developments in recognition of prior learning and competency-based education (Harris et al., 2014), thereby linking assessment reform with wider transformations in higher education.

A key contribution of this framework is the repositioning of assessment as a mechanism that connects higher education with both individual learner needs and societal demands. The dual assessment system enables institutions to sustain accountability through score-based evaluation while simultaneously fostering moral development and learner identity through reflective practices. This duality is particularly relevant in the context of human-AI interaction, where traditional assessment formats are increasingly inadequate for capturing authentic learning. Portfolio assessment, with its emphasis on process, provenance, and reflection, offers a more resilient and future-oriented approach that aligns with the epistemic conditions of digitally mediated education (Bearman et al., 2023).

From a practical standpoint, the study suggests a shift toward integrated and flexible

assessment ecosystems in higher education. This includes redesigning curricula to support personalised pathways, developing robust and transparent portfolio frameworks, and enhancing educators' assessment literacy to ensure credibility and consistency (Boud & Falchikov, 2007). Challenges related to scalability, reliability, and standardisation remain, yet these should be understood as design challenges within a broader paradigm shift rather than as inherent limitations of portfolio-based approaches.

Nevertheless, this study is not without limitations. As a literature-based inquiry, the proposed framework remains conceptual and requires empirical validation across diverse institutional contexts. Future research should therefore investigate the implementation of the Education Model for All-to-One, particularly its impact on student learning outcomes, motivation, and identity formation. Further work is also needed to explore how digital technologies and AI can support scalable, credible, and ethically grounded portfolio assessment systems.

In sum, this study contributes to higher education assessment scholarship by advancing a theoretically robust and contextually responsive framework that integrates score and moral value within the Education Model for All-to-One. By reframing assessment as both a measurement and a moral practice, it offers a novel response to longstanding critiques of score-based systems while addressing emerging challenges in the era of human-AI interaction. Ultimately, the study shifts the focus of assessment from evaluating what students achieve to understanding-and cultivating-who they become as autonomous and ethically responsible individuals.

5. Conclusion

This study has argued that the dominance of score-based assessment in higher education, while valuable for standardisation and accountability, is insufficient to capture the full complexity of student development. The reduction of learning to quantifiable outputs risks neglecting reflective, ethical, and autonomy-related dimensions that are central to meaningful education. In response, this study advances a conceptual reorientation of assessment through the integration of score and moral value, operationalised via portfolio assessment within the Education Model for

All-to-One.

Grounded in Kantian philosophy, the study reconceptualises assessment as both a measurement and a moral practice. The proposed dual assessment framework (Score vs Moral Value) retains scores as indicators of cognitive achievement while positioning portfolios as reflective instruments that capture intention, reasoning, and learner identity. This integration offers a more comprehensive and human-centred approach to evaluation, particularly relevant in the era of human-AI interaction, where traditional assessment formats face increasing challenges of authenticity and validity.

Although conceptual, this framework provides a theoretically robust foundation for rethinking assessment in higher education. Future research should focus on empirical validation and the development of scalable portfolio-based systems. Overall, the study contributes to assessment scholarship by shifting the focus from what students achieve to who they become, reaffirming the role of higher education in cultivating autonomous and ethically responsible individuals.

6. Implication

The findings suggest the need to move beyond mono-dimensional, score-dominated assessment toward more pluralistic and human-centred systems. Integrating score and moral value through portfolio assessment enables higher education institutions to balance standardised measurement with reflective evaluation, ensuring that cognitive achievement is complemented by the development of autonomy, ethical reasoning, and learner identity. This shift requires enhanced assessment literacy among educators, particularly in designing and moderating portfolio-based approaches, as well as the adoption of flexible curricula aligned with personalised graduate pathways and recognition of diverse learning experiences.

In the context of human-AI interaction, these implications become more urgent. As traditional output-based assessments face challenges of authenticity and validity, portfolio assessment offers a more robust alternative by foregrounding process, reflection, and learning traceability. Consequently, quality assurance and policy frameworks must evolve to recognise multidimensional evidence of learning rather

than privileging standardised scores alone. Such a reorientation strengthens the validity of assessment while repositioning higher education toward its broader purpose of developing autonomous and ethically responsible individuals.

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