

THE ROLE OF ARTIFICIAL INTELLIGENCE IN BUSINESS EDUCATION ASSESSMENT AND EVALUATION

ODIBO, G. D.

Department of Business Education, Faculty of Education, Ambrose Alli University, Ekpoma,
Edo State, Nigeria.

gideon.do@aauekpoma.edu.ng

Tel: 08037371494

Abstract

Artificial Intelligence (AI) is increasingly reshaping how teaching, learning, assessment, and evaluation are conceived and practised in business education. This opinion paper critically examined the opportunities, limitations, and pedagogical implications of AI-enabled assessment and evaluation, with particular attention to contexts in which technological, infrastructural, ethical, and human-capacity constraints can affect implementation. The paper adopted an analytical opinion-paper design rather than an empirical research design. Its arguments are developed through a critical and thematic synthesis of selected scholarly literature, policy-oriented publications, and conceptual works published principally between 2021 and 2026, supplemented where necessary by foundational theoretical sources. The discussion focused on automated grading, adaptive and personalised assessment, real-time feedback, academic-integrity monitoring, learning analytics, predictive assessment, and the implications of these applications for teaching practice and institutional effectiveness. The paper argued that AI should not be understood merely as a mechanism for automating assessment; rather, its greatest educational value lies in augmenting professional judgement, enabling timely feedback, supporting competency-based evaluation, and generating evidence for instructional decision-making. At the same time, concerns relating to algorithmic bias, privacy, transparency, academic integrity, digital inequality, infrastructure, staff preparedness, and overdependence on automated systems cannot be treated as secondary issues. The paper therefore advanced the position that responsible AI integration requires human oversight, curriculum redesign, educator capacity development, institutional investment, and clear ethical and governance arrangements. AI can strengthen business education assessment and evaluation, but only when technology serves sound pedagogical purposes rather than replacing professional educational judgement.

Keywords: Artificial Intelligence; Assessment; Business Education; Educational Technology; Evaluation; Generative AI; Learning Analytics.

Introduction

The global educational landscape is undergoing rapid digital transformation driven by Artificial Intelligence (AI), machine learning, robotics, data analytics, cloud computing, and adaptive learning systems. Among these developments, AI has attracted particular attention because of its capacity to process large volumes of information, recognise patterns, generate content, support decision-making, and automate tasks that traditionally required substantial human effort (Holmes et al., 2022; Russell & Norvig, 2022). Education is consequently moving beyond conventional digitalisation towards systems in which data and intelligent technologies can influence instructional delivery, assessment, feedback, learner support, and institutional decision-making.

Business education is especially relevant to this transformation because it prepares learners for workplaces characterised by digitalisation, automation, data-driven decision-making, entrepreneurship, and technological innovation. Its subject areas—including accounting, commerce, office technology, marketing, economics, entrepreneurship, and business management—require learners to demonstrate not only knowledge but also practical competencies such as problem-solving, communication, strategic thinking, financial decision-making, innovation, and

adaptability (Osuala, 2021). Assessment and evaluation in business education must therefore evolve in ways that capture these multidimensional competencies.

Traditional assessment practices remain important, but they can be constrained by delayed feedback, intensive marking workloads, limited opportunities for continuous monitoring, and difficulties in generating timely evidence about individual learning needs. AI-enabled systems can complement conventional approaches through automated scoring, adaptive testing, immediate feedback, learning analytics, and predictive identification of students who may require additional support (Ifenthaler & Yau, 2022; Nguyen et al., 2023). These possibilities create an important opportunity for business educators to reconsider what is assessed, how it is assessed, and how assessment evidence is used.

However, the expansion of AI also raises questions that cannot be resolved by technological enthusiasm alone. Automated decisions may reproduce bias; extensive data collection can threaten privacy; generative AI may complicate authorship and academic integrity; and excessive automation may weaken the professional and relational dimensions of teaching. The central issue, therefore, is not whether AI should enter business education assessment and evaluation, but how it should be integrated without compromising validity, fairness, human judgement, and the educational purposes of assessment.

This paper presents an informed scholarly opinion on that question. It argues that AI has considerable potential to improve assessment and evaluation in business education, but that its educational value depends on deliberate pedagogical design, responsible governance, educator competence, and meaningful human oversight.

Purpose and Focus of the Paper

The purpose of this opinion paper is to critically examine the emerging role of Artificial Intelligence in business education assessment and evaluation and to advance a reasoned position on how its opportunities can be realized while its risks are managed. Specifically, the paper discusses:

1. the ways AI can improve assessment practices;
2. how AI-enabled evaluation can support learning outcomes and institutional effectiveness;
3. the principal ethical, infrastructural, professional, and policy challenges; and
4. the implications for business education pedagogy and practice.

Unlike an empirical study, the paper does not seek to estimate causal effects, test statistical hypotheses, or generalise findings from a defined sample. Its contribution is argumentative and interpretive: it connects established scholarship with emerging educational developments and uses that synthesis to formulate a defensible position for business educators, institutions, and policymakers.

Methods

This paper adopted an analytical opinion-paper design grounded in critical narrative review and thematic synthesis of relevant literature. The design is appropriate because the purpose is to interrogate an emerging educational issue, evaluate competing considerations, connect conceptual and empirical insights, and advance a reasoned scholarly position rather than to collect and analyse primary quantitative or qualitative data.

The literature base comprises selected peer-reviewed journal articles, academic books, policy-oriented publications, and institutional materials dealing with Artificial Intelligence in education, AI-enabled assessment, learning analytics, educational evaluation, digital pedagogy, academic integrity, and technology adoption. The principal period of emphasis is 2021–2026 in order to

reflect contemporary developments, while foundational works such as Davis (1989) and Vygotsky (1978) are retained where they provide essential theoretical grounding. Sources identified in the original manuscript through academic databases and scholarly search platforms were considered for their relevance to the paper's focus. The literature was not treated as a statistical dataset; instead, relevant arguments and findings were organised thematically.

The analysis proceeded through four broad stages: identification of literature relevant to AI, assessment, evaluation, and business education; critical reading of the selected materials; thematic organisation of recurring opportunities, challenges, and pedagogical implications; and interpretive synthesis leading to the position advanced in the paper. The approach therefore does not claim systematic-review status and does not imply exhaustive retrieval or formal meta-analysis. Its strength lies in bringing together complementary perspectives to support a coherent scholarly argument.

The opinion advanced in this paper is consequently evidence-informed rather than empirically tested. Claims concerning effectiveness are presented cautiously, particularly where the literature is heterogeneous or where evidence from general higher education cannot automatically be transferred to business education. This distinction is important for maintaining methodological integrity in an opinion paper.

Conceptual Perspectives

Artificial Intelligence refers broadly to computational systems capable of performing functions associated with aspects of human intelligence, including learning, reasoning, language processing, pattern recognition, prediction, and decision support (Russell & Norvig, 2022). In education, AI encompasses applications that can analyse learner data, personalise learning, generate feedback, automate selected assessment functions, and support educational decision-making (Holmes et al., 2022).

Business education is an area of vocational and professional education concerned with developing knowledge, skills, attitudes, and competencies for business occupations, entrepreneurship, management, and participation in contemporary economic life (Osuala, 2021). Its growing digital orientation makes it particularly receptive to technologies that can simulate business environments, analyse performance, and support competency development.

Assessment is the systematic collection and interpretation of evidence about learners' knowledge, skills, attitudes, and performance for purposes such as feedback, grading, diagnosis, and instructional decision-making (Brown & Knight, 2021). Evaluation is broader and concerns judgements about the quality, value, effectiveness, or impact of educational activities, programmes, processes, and outcomes (Stufflebeam & Zhang, 2021). AI can contribute to both processes, but the distinction remains important: assessment primarily generates evidence about learning, whereas evaluation uses evidence to judge effectiveness and inform improvement.

Theoretical Underpinning

Two complementary theoretical perspectives are retained to illuminate the argument: the Technology Acceptance Model (TAM) and Constructivist Learning Theory.

The Technology Acceptance Model explains technology adoption through users' perceptions of usefulness and ease of use (Davis, 1989). Applied to AI-enabled assessment, TAM suggests that lecturers and students are more likely to engage with AI systems when they perceive them as useful, accessible, trustworthy, and relevant to educational tasks. The model is valuable because technological availability alone does not guarantee meaningful adoption.

Constructivist Learning Theory, associated with Vygotsky's work on socially mediated learning, emphasises active knowledge construction, interaction, scaffolding, and meaningful engagement (Vygotsky, 1978). From this perspective, AI is educationally valuable when it facilitates rather than displaces active learning—for example, through simulations, adaptive tasks, feedback, guided problem-solving, and opportunities to apply business concepts in realistic situations.

Together, the perspectives support the paper's central position: successful AI integration requires both acceptance of the technology and pedagogical alignment. A technically sophisticated assessment system that users distrust or that encourages passive learning may produce limited educational value. Conversely, well-designed AI applications can support more responsive, learner-centred, and competency-oriented assessment when educators retain responsibility for interpretation and judgement.

AI and the Transformation of Assessment in Business Education

AI can transform business education assessment in several interconnected ways.

Automated grading and scoring can reduce the time required to process large volumes of routine assessment tasks and may improve consistency for appropriately structured activities (Kooli, 2023). However, automated scoring should not be assumed to be inherently objective. For complex essays, case analyses, entrepreneurial proposals, and reflective work, human moderation remains important because educational quality involves contextual interpretation that algorithms may not fully capture.

Adaptive and personalised assessment can adjust the difficulty or sequence of tasks according to evidence of learner performance. This creates opportunities for more responsive assessment of competencies such as financial reasoning, strategic thinking, innovation, and problem-solving (Ifenthaler & Yau, 2022). In my view, this is one of the more promising uses of AI because it shifts assessment from a uniform event towards a more continuous understanding of learner development.

Real-time feedback is another important contribution. AI-enabled platforms can provide immediate responses to quizzes, assignments, and learning activities, enabling learners to identify errors and revise their understanding more quickly. Timely feedback can support self-regulated learning and reduce the instructional delay associated with conventional marking processes (Nguyen et al., 2023).

Learning analytics and predictive assessment can also help educators interpret patterns in attendance, engagement, assessment performance, and progression. Such systems may identify students who require additional support and assist institutions in making evidence-informed interventions (Ifenthaler & Yau, 2022). The appropriate role of prediction, however, is early support rather than labelling. A predictive risk score should prompt professional inquiry and assistance, not become a self-fulfilling judgement about a learner's ability.

AI can additionally support academic-integrity processes through plagiarism detection, pattern analysis, and examination monitoring. Yet surveillance-based technologies should be implemented cautiously because academic integrity must be balanced with privacy, proportionality, transparency, and due process (UNESCO, 2021).

AI-Driven Evaluation, Learning Outcomes and Institutional Effectiveness

The influence of AI extends beyond individual assessment events to the broader evaluation of teaching, learning, and institutional performance. Aggregated assessment data can help lecturers identify common learning difficulties, evaluate the effectiveness of instructional strategies, and redesign learning activities. At institutional level, analytics can support quality assurance, programme monitoring, student-support planning, and evidence-informed decision-making.

The strongest argument for AI in this area is therefore not simply efficiency. Its greater value lies in converting dispersed educational data into actionable information. For business education, this can support a shift towards competency-based evaluation in which evidence of application, problem-solving, decision-making, collaboration, and innovation complements conventional knowledge tests.

Nevertheless, institutional effectiveness should not be reduced to what an algorithm can measure. Quantifiable indicators may privilege easily measurable outcomes while overlooking creativity, professional identity, ethical reasoning, interpersonal development, and contextual

learning. Consequently, AI-generated evidence should enrich evaluation rather than define it completely.

Challenges and Critical Concerns

The adoption of AI in business education assessment and evaluation is accompanied by substantial challenges.

First, infrastructure and digital access remain critical. Reliable electricity, connectivity, computing resources, secure systems, and appropriate software are prerequisites for sustained AI-enabled assessment. Where these foundations are weak, technology may widen rather than reduce educational inequality.

Second, educator and learner preparedness is essential. AI literacy involves more than knowing how to operate a tool; it includes understanding its limitations, interpreting outputs, checking accuracy, protecting data, designing appropriate assessment tasks, and exercising professional judgement. Continuous professional development is therefore necessary (Yakubu & Salisu, 2024).

Third, ethical and privacy concerns require serious attention. AI systems may process sensitive learner information, generate opaque recommendations, or reproduce biases embedded in data and algorithms. Transparency, accountability, data minimisation, security, and mechanisms for human review should consequently be treated as core design requirements rather than optional additions (UNESCO, 2021).

Fourth, generative AI creates new academic-integrity questions. Conventional plagiarism detection alone cannot resolve questions of authorship, appropriate assistance, originality, and learning. Assessment design must therefore evolve towards tasks that require explanation, application, reflection, process evidence, oral defence, and authentic problem-solving.

Fifth, overdependence on AI can weaken professional judgement and human relationships in education. The lecturer's role should not disappear; it should become more analytical, facilitative, and ethically responsible. AI can process patterns and generate suggestions, but educators remain accountable for educational decisions.

Finally, financial and governance constraints can limit sustainable adoption. Institutions require not only acquisition budgets but also maintenance, staff development, cybersecurity, evaluation, and policy capacity. Responsible implementation therefore requires institutional strategy rather than isolated procurement of AI tools.

Implications for Business Education Pedagogy and Practice

AI requires business education to reconsider curriculum, pedagogy, assessment literacy, and professional development. Curricula should incorporate AI literacy, data interpretation, digital entrepreneurship, responsible technology use, and critical evaluation of AI-generated information. Students should learn not merely to use AI tools but to question outputs, verify evidence, recognise bias, protect information, and apply professional judgement.

Pedagogically, AI can support simulations, adaptive learning, virtual business environments, case-based tasks, and personalised feedback. These applications align with constructivist principles when learners actively engage with realistic problems and use feedback to refine their thinking (Vygotsky, 1978; Holmes et al., 2022).

Assessment itself should also be redesigned. If generative AI can easily produce conventional essays or short answers, assessment should increasingly include authentic business cases, portfolios, project work, demonstrations, presentations, reflective commentaries, oral questioning, and process-based evidence. Such approaches can make assessment more resistant to superficial automation while providing richer evidence of competence.

For lecturers, AI should be positioned as an augmentation technology. It can reduce routine workload and expand access to data, allowing educators to spend more time on mentoring,

feedback, creativity, and complex judgement. This requires sustained professional development and institutional support.

From the perspective of human-capital development, the ultimate test of AI adoption is whether it strengthens the capabilities of graduates to perform, innovate, adapt, and create value in technology-rich workplaces. AI should therefore be evaluated by its contribution to meaningful learning and employability, not merely by the number of automated tasks it performs.

Discussion: The Position Advanced by This Paper

The central position advanced here is that the question facing business education is not whether AI will influence assessment and evaluation—it already is—but whether educators and institutions will shape that influence deliberately. A purely automation-oriented approach is insufficient. Assessment is not only a technical operation of assigning scores; it is a pedagogical process through which learners receive feedback, demonstrate competence, and make progress.

Accordingly, AI should occupy an assistive rather than sovereign role. Routine and data-intensive functions are appropriate areas for automation, while high-stakes decisions, complex judgement, interpretation of ambiguous evidence, and decisions affecting learner progression should retain meaningful human oversight. This balance is likely to produce more trustworthy and educationally defensible outcomes.

The paper further contends that responsible AI adoption requires a move from tool-centred thinking to purpose-centred design. Institutions should begin with the learning outcome or evaluation problem and then determine whether AI offers a justified solution. Where conventional methods are more valid, transparent, inclusive, or educationally valuable, they should be retained.

This position also implies that business education must prepare students for an AI-mediated economy without allowing AI to replace the very cognitive capacities that education is expected to develop. Critical thinking, creativity, ethical reasoning, communication, judgement, and problem-solving remain essential. The objective should therefore be to develop AI-capable graduates rather than AI-dependent graduates.

Conclusion

Artificial Intelligence offers significant opportunities to strengthen assessment and evaluation in business education through automation, adaptive assessment, immediate feedback, learning analytics, predictive support, and improved access to educational evidence. Its potential extends beyond administrative efficiency to the development of more continuous, personalised, competency-oriented, and data-informed educational practices.

However, technological capability does not automatically produce educational quality. Infrastructure, digital literacy, ethical governance, privacy, algorithmic fairness, academic integrity, financial sustainability, and human oversight remain decisive conditions for responsible implementation. The evidence-informed position of this paper is therefore that AI should augment rather than replace professional educational judgement.

The future of business education assessment should consequently be neither a return to exclusively traditional methods nor an uncritical embrace of automation. It should be a balanced model in which intelligent technologies support educators and learners while human values, pedagogical principles, accountability, and fairness remain central. With purposeful curriculum redesign, educator capacity building, institutional investment, and robust governance, AI can become a meaningful instrument for improving assessment and evaluation and for preparing business education graduates for an increasingly digital economy.

Suggestions

1. Business education institutions should develop clear AI assessment and evaluation policies that define acceptable uses, human-oversight requirements, data-governance principles, and procedures for addressing disputes or errors.
2. Institutions should prioritize continuous professional development in AI literacy, digital pedagogy, assessment design, data interpretation, and ethical technology use for business educators.
3. Business education curricula should incorporate AI literacy, data analytics, digital entrepreneurship, critical evaluation of AI outputs, and responsible use of generative AI.
4. AI-enabled assessment should be implemented progressively, beginning with applications where there is a clear pedagogical benefit and where validity and fairness can be evaluated.
5. High-stakes assessment and progression decisions should retain meaningful human oversight, with AI outputs treated as decision-support evidence rather than unquestionable verdicts.
6. Assessment strategies should increasingly incorporate authentic, competency-based, process-oriented tasks that evaluate critical thinking, problem-solving, communication, creativity, and professional judgement.
7. Institutions should invest in the infrastructure, cybersecurity, connectivity, software maintenance, and technical support required for sustainable AI adoption.
8. Data protection, algorithmic fairness, transparency, accessibility, and accountability should be embedded in the procurement, design, implementation, and evaluation of AI-enabled educational systems.
9. Institutions should periodically evaluate whether AI applications are actually improving learning, assessment quality, staff workload, and student experience rather than assuming that automation constitutes progress.
10. Partnerships among educational institutions, technology developers, professional bodies, and policymakers should be encouraged to support contextually appropriate innovation and responsible AI governance.

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