Renewable and Authentic Assessment in Higher Education in Kenya: Navigating Possibilities, Confronting Challenges, and Forging Solutions

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ABSTRACT

The global acceleration of digitization and technological innovation is profoundly reshaping educational paradigms, compelling higher education institutions worldwide to re-evaluate traditional assessment methods. Within this transformative context, renewable assessment emphasising iterative refinement, student ownership, and the creation of enduring value beyond the courses. On the other hand authentic assessment is centred on complex, real-world tasks mirroring professional practice. These two assessment approaches are gaining significant traction as pedagogically robust alternatives. This paper critically examines the integration of these innovative assessment models within the unique landscape of Kenyan higher education. It delves into their core theoretical underpinnings, exploring principles of constructivism, situated learning, and sustainable knowledge creation relevant to the Kenyan context. The study specifically investigates the possibilities these approaches offer which are enhancing graduate employability by developing demonstrable skills and competencies, fostering deeper student engagement and meta-cognition, promoting inclusivity through diverse task formats, and aligning assessment with Kenya's broader digital transformation goals and vision for quality education. Concurrently, it confronts the substantial challenges impeding wider adoption, including infrastructural limitations (internet access, devices), large class sizes, faculty capacity development needs, resistance to pedagogical change, concerns about academic integrity in digital environments, and resource constraints. Moving beyond mere identification of hurdles, the paper proposes concrete solutions and recommendations. These include strategies for phased implementation, leveraging appropriate educational technologies affordably, and comprehensive faculty training programs, rethinking institutional assessment policies, and developing context-specific exemplars of renewable and authentic tasks. By synthesizing possibilities, challenges, and actionable solutions, this paper aims to inform policy and practice, advocating for the strategic and sustainable integration of renewable and authentic assessments to enhance learning quality and graduate readiness in Kenya's evolving higher education sector.

Keywords: Renewable Assessment, Authentic Assessment, Higher Education, Kenya, Digital Transformation

1. INTRODUCTION

Kenya is gradually emerging as a middle level economy in the African continent. This transition is a cornerstone of the national Vision 2030 development blueprint, which aims to create a "globally competitive and prosperous nation." The realization of this ambition, however, is contingent upon a robust human capital base equipped with the requisite skills to innovate, maintain, and advance complex technologies aimed to increase incomes at both the household and national levels (Othoche, 2025). This context places a profound demand on Kenyan Higher Education Institutions (HEIs) to produce graduates who are not merely repositories of theoretical knowledge but adept problem-solvers and critical thinkers.

In parallel, a global pedagogical evolution advocates for a move away from traditional, summative examinations towards authentic assessment. Authentic assessment is characterized by its emphasis on "real-world" tasks that require students to apply their knowledge and skills to complex, meaningful problems, mirroring the challenges of professional practice (Wiggins, 1990). A richer, more contemporary understanding frames authenticity through its social value, where assessments enhance students' sense of self-worth by connecting their learning to societal needs (Villarroel et al., 2018). For purposes of illustration, Kenya's renewable energy sector for example could have students be involved in conducting energy audits for local communities, designing solar-powered solutions for off-grid areas, or developing sustainable business models for green tech start-ups.

Despite this alignment of a national need and pedagogical innovation as shown in the foregoing, a significant gap seems to persist between student learning outcomes and the teething real world problems whose solutions still remain elusive. The assessment culture in many Kenyan universities remains dominated by high-stakes, written examinations that often prioritize rote memorization over practical competence (Changeiywo, 2020). This creates a critical misalignment between the skills fostered in academia and those demanded by the burgeoning Kenyan economy.This studytherefore seeks to synthesize existing literature to address research questions provided below.

1.2. Purpose and Scope

To analyse the applicability, benefits, challenges, and potential solutions for implementing RA and AA in Kenyan higher education institutions.

1.3 Problem Statement

There has been a misalignment between traditional assessment practices in Kenyan HEIs and the skills demanded by the modern workforce and national development goals (Vision 2030; Government of Kenya, 2007). There is therefore need for more valid, engaging, and relevant assessment types in higher institutions of learning.

1.4. Research Questions

What are the possibilities presented by authentic assessment for aligning Kenyan higher education?

What are the benefits of adoption of authentic assessment in

Kenya?

What are the primary challenges inhibiting the widespread adoption of authentic assessment in Kenya?

What solutions have been proposed to overcome these challenges?

1.5. Rationale

RA and AA are particularly relevant for Kenya in addressing skills gap, leveraging potential of EdTech and promoting deeper learning among learners. Kenya's education system, particularly with the ongoing implementation of the Competency-Based Curriculum (CBC), stands to gain significantly from embracing authentic and renewable assessments. Moving beyond traditional, high-stakes exams towards these modern approaches is crucial for developing relevant skills, promoting equity, and fostering sustainable learning in the 21st century.

2. LITERATURE REVIEW

2.1 Current Assessment Landscape in Kenyan Higher Education

The 8.4.4 system's assessment heavily relies on high-stakes, summative examinations (mid-terms, finals), essays, quizzes. (Odhiambo et al., 2020). What drives this current assessment model in Kenya today are;

historical legacy of high-stake summative assessments,

perceived efficiency for large classes,

regulatory requirements by regulatory bodies such as Kenya National Examination Council (KNEC) and Commission for University Education (CUE) guidelines) and

resource constraints.

This current assessment model encourages surface learning, limited feedback, poor skill transferability, high-stress environment, vulnerability to malpractice, disconnect from professional practice (Makokha & Mutisya, 2016).

2.2 Definition of Key Concepts

2.2.1 Renewable Assessment (RA)

"Assessments that are openly licensed so that the public is free to retain, reuse, revise, remix, and redistribute them" (Wiley & Hilton, 2018, p. 135). Emphasis on student contribution, iteration, feedback loops, and value beyond the individual.

2.2.2 Authentic Assessment (AA)

Authentic assessment is a course or subject evaluation method where the students apply their knowledge to unique real-life contexts or situations. Mueller, (2018) describes AA as a form of assessment in which students are asked to perform real-world tasks that demonstrate meaningful application of essential knowledge and skills.

It engages in worthy problems or questions of importance, in which students must use knowledge to fashion performances effectively and creatively. The tasks are either replicas of or analogous to the kinds of problems faced by adult citizens and consumers or professionals in the field" (Wiggins, 1998, p. 22).

AA focuses on real-world context, complex tasks, higher-order thinking, and transparent criteria.

Wikipedia (2010) defines authentic assessment as an umbrella concept that refers to the measurement of "intellectual accomplishments that are worthwhile, significant, and meaningful,"(Wehlage, Newmann, & Secada, 1996, p. 23)

Teacher Vision (2011) posits that AA aims to evaluate students' abilities in 'real-world' contexts, where students learn how to apply their skills to authentic tasks and projects

Mueller, (2018) gives 3 alternative names of AA;

Performance Assessment (PA) (or Performance-based).

This name arises from the fact that in this assessment students are asked to *perform* meaningful tasks. This is the other most common term for this type of assessment because performance assessment as performance-based. However, some educators such as Stiggins (1987) do not refer to PA as AA. The scholar chooses not to mention the authentic nature of tasks in PA but stresses "Performance assessments call upon the examinee to demonstrate specific skills and competencies, that is, to apply the skills and knowledge they have mastered" Stiggins, 1987, p. 34, cited in Mueller (2011).

To other educators, authentic assessments are performance assessments using real-world or authentic tasks or contexts (Meyer, 1992). However, not all PA are AA according to more scholars such asWiggins, (2014) who says that performance assessment" is not quite the same as "authentic assessment" because the performance could be inauthentic.

Alternative Assessment. This assessment is said to occur because AA is an *alternative* to traditional assessments.

Direct Assessment. This particular assessment is derived from the fact that AA provides more *direct* evidence of meaningful application of knowledge and skills. For example, if a student does well on a multiple-choice test we might infer *indirectly* that the student could apply that knowledge in real-world contexts, but we would be more comfortable making that inference from a direct demonstration of that application such as writing a report.

2.2.3 Elements of AA

According to Gulikers, Bastiaens and Kirschner (2004), there are five elements to authentic assessment, which can be summarised as:

authentic task – resembles previous authentic tasks but in a new situation

authentic context – resembles realistic context or professional practice

authentic social context – social context is similar to the context where the task takes place outside the university

authentic result – assessment requires demonstration of competencies by creating a quality output

authentic criteria – based on criteria used in real life, concerning relevant competencies for future professional life.

2.2.4 Characteristics of Authentic Assessment

Authentic assessment simulates real-life situations. Students are asked to participate in real-world tasks and activities to demonstrate their knowledge of the course or subject matter.

There are no right or wrong answers in authentic assessment. It is all about showing how the student can use the knowledge from the course in real-world contexts and scenarios.

2.2.5 Pedagogies promoting Authentic Assessments

Authentic assessments can be designed using different teaching methods like inquiry-based learning, project-based learning, problem-based learning, scenario-based learning, or design-based learning.

2.2.6 Examples of Authentic Assessment

Studio Portfolios

This is a meaningful collection of student's performance and an in-depth evaluation of how they have put their knowledge to work. Studio portfolios show clear patterns of a student's growth and this helps the teacher to quantify the student's progress and performance. As students create their portfolios, they reflect on their goals and engage in some degree of self-assessment.

Role-Play

This is a type of experiential learning where the student takes on a specific role or character in a well-defined learning context. Unlike simulation games, role play places students in distinct roles. The students may be asked to imitate characters in unfamiliar contexts.

Case studies

Case studies are potentially among the most authentic and effective assessment types in a variety of disciplines and professions – they are highly relevant, motivational and cognitively demanding. However, when poorly designed and administered,case studies can be superficial and inauthentic (Goff et al., 2015).

Other examples include;

Problem solving

Debates

Mock court sessions
Oral arguments
Simulated problem-solving and
Argumentative experiences can help student's transfer critical thinking to real-world situations.
Research reviews and annotated bibliographies
Long-term research projects

2.2.7 Authenticity in AA

According to Meyer, (1992), there are a number of facets/features of authenticity of assessments such as;
context,
stimulus,
task complexity,
locus of control (degree to which people believe they have control over the outcome of events in their lives, as opposed to external forces beyond their control.)
motivation,
spontaneity,
resources,
conditions,
criteria,
consequences and
standards among others.

In a particular assessment some of these facets are more critical than others as determined by the assessor.

For an assessment to be called authentic the educators and assessor must specify in what respect the assessment is authentic, and must also be explicit which facets of authenticity are more critical (Meyer, 1992). In addition, since authenticity is multifaceted in nature, some assessments are more authentic than others.

For example, a writing assessment can be considered authentic if the locus of control rests on the student where the student determines the topic, time allocation, the pacing and the conditions under which the writing sample is developed. In this case the facet of authenticity is locus of control which squarely rests on the learners in this case. If the locus of control moves to the teacher, then the test ceases to the authentic and becomes performance based.

2.2.8 Criteria of AA

Wiggins, (2014) gives the following as criteria of AA;

A. Structure & Logistics

i. Are more appropriately public; involve an audience, panel, etc.
ii. Do not rely on unrealistic and arbitrary time constraints
iii. Offer known, not secret, questions or tasks.
iv. Are not one-shot – more like portfolios or a season of games

v. Involve some collaboration with others
vi. Recur – and are worth retaking
vii. Make feedback to students so central that school structures and policies are modified to support them

B. Intellectual Design Features

i. Are "essential" – not contrived or arbitrary just to shake out a grade
ii. Are enabling, pointing the student toward more sophisticated and important use of skills and knowledge
iii. Are contextualized and complex, not atomized into isolated objectives
iv. Involve the students' own research
v. Assess student habits and repertories, not mere recall or plug-in.
vi. Are representative challenges of a field or subject.
vii. Are engaging and educational
viii. Involve somewhat ambiguous (ill-structures) tasks or problems

C. Grading and Scoring

i. Involve criteria that assess essentials, not merely what is easily scores
ii. Are not graded on a curve, but in reference to legitimate performance standards or benchmarks
iii. Involve transparent, de-mystified expectations
iv. Make self-assessment part of the assessment
v. Use a multi-faceted analytic trait scoring system instead of one holistic or aggregate grade
vi. Reflect coherent and stable school standards

D. Fairness

i. Identify (perhaps hidden) strengths [not just reveal deficits]
ii. Strike a balance between honouring achievement while mindful of fortunate prior experience or training [that can make the assessment invalid]
iii. Minimize needless, unfair, and demoralizing comparisons of students to one another
iv. Allow appropriate room for student styles and interests such as some element of choice.
v. Can be attempted by all students via available scaffolding or prompting as needed with such prompting reflected in the ultimate scoring.
vi. Have perceived value to the students being assessed.

2.2.9 Dimensions of AA

There are 5 dimensions in AA as given in the framework in Table 1. These are; Task, Physical Context, Social Context, Polished Product and Criteria and standards

Table 1: Five-Dimensional Framework for Authentic Assessment

Task	Physical Context/Digital Context	Social Context	Polished Product	Criteria & Standards
What do students have to do? What are some of the sub-tasks involved?	In real-life, where would students complete this task?	What kinds of social relationships are involved?	The task is different from the product. What would a finished product look like?	What are the elements of the project that would be judged?

Develop a business case for a new project or service *Executive Summary* *Rationale* *Budget* *Implementation timeline*	*Laboratory, office, work individually online)*	*Teammates? Managers? (power relations) Cross functional teams?*	*Marketing plan? Sales pitch? Strategic plan? Podcast?*	*Content Visual appeal Student's tangible and intangible contributions Creativity Analysis of market data*

Source: Jason Openo

2.2.10 How to make assessment authentic (Applicability of AA)

Instructors can create authentic assessments by identifying standards for student performance, selecting authentic tasks and separating them from traditional tasks, identifying criteria for the task and creating a rubric to measure performance. (*Authentic Assessment Definition and Meaning*, n.d.). The assessment should require students to perform tasks or create products that are true to the practice or relevant to the program of study or profession, in a context that simulates the reality of that program of study or future profession(Goff et al., 2015)

2.3 Benefits of AA and RA

Alignment with Competency-Based Curriculum (CBC) Goals
AA directly mirrors the CBC's core philosophy by evaluating learners' ability to apply knowledge and skills to solve real-world problems, perform meaningful tasks, and demonstrate competencies in contexts resembling life beyond school (Wiggins, 1998). This moves away from merely testing memorized facts towards assessing practical understanding and capability.

For instance, instead of a multiple-choice test on environmental conservation, an authentic assessment might involve learners designing and implementing a waste management project in their community, documenting the process, and presenting findings (Achieng, 2024).

Development of 21st-Century Skills
Development of critical 21st-century skills namely critical thinking, problem-solving, collaboration, communication, digital literacy (Darling-Hammond & Adamson, 2013).

Authentic tasks inherently require critical thinking, creativity, collaboration, communication, problem-solving, and digital literacy skills essential for success in higher education and the modern Kenyan workforce (Partnership for 21st Century Skills, 2019). Renewable assessments, often digital, further facilitate the development and demonstration of these skills.

An example is collaborating on a renewable energy model using locally available materials, presenting findings digitally, and reflecting on the process as it assesses multiple crucial competencies authentically.

Accuracy and validity
The accuracy of the assessment refers to how closely it resembles a real-world situation, problem, disciplinary norm, or field of study. The assessment validity refers to the alignment of grading criteria to the learning objectives, transferable skills (e.g., communication, critical thinking, etc.), workforce readiness skills, and disciplinary norms and practices (Ashford-Rowe, 2014; Grant, 2021; Wilson-Mah, 2019;).AA and RA improves validity on an assessment (Gulikers et al., 2004).

Fostering student agency and ownership of learning
AA and RA are powerful mechanisms for fostering student agency. Authentic assessment builds agency by making learning relevant and putting students in control of their process, while renewable assessment deepens this ownership by making their work meaningful and valuable to a wider community. Together, they help cultivate the self-directed, motivated, and capable learners needed for lifelong success. According to Wiley & Hilton, (2018), AA and RA have capabilities of fostering students' agency and ownership of their learning. These assessments are powerful because they transform the educational contract. They move students from completing tasks for an audience of one (the instructor) to becoming agentic creators of knowledge for a global audience, thereby building the skills and confidence needed for lifelong learning.

Potential for wider societal impact through open sharing (RA).
RA widens the societal impact through open sharing of the resources developed by the teacher and learner as OER.

It enhances and ensures academic integrity.

Academic integrity is the moral code of academia and can be defined as the use, generation, and communication of information in an ethical, honest, and responsible manner. This makes learners benefit from the learning by acquiring deep learning of concepts. Forms of academic integrity violations are, plagiarism, cheating in homework and exams, fabrication of information and facilitating academic misconducts. Academic integrity violations have reached an alarming level that threatens to undermine the value of post-secondary credentials. While academic integrity has reached a new height of concern, the situation is far from new.

Whitley (1998)reviewed the prevalence of cheating in 107 studies from 1970-1996, and the prevalence of total cheating in these studies ranged from 9% to 95% of students, with a mean of 70.4% students admitting to committing some form of academic integrity violation(*AAOL-Week2-Video1-Transcript.Pdf*, n.d.). In addition, more recent research from the International Centre of Academic Integrity concluded that 40% of students admitted to committing academic integrity violations. Forty (40) percent is consistent with Whitley's finding that 43.1% of students cheated on exams, 40.9% of students cheated on homework, and 47% of students engaged in plagiarism. There are real world consequences to academic integrity violations. Studies suggest a relationship exists between students who cheat in an academic setting and the level of unethical conduct displayed in the workplace and this "extended incompetence could seriously jeopardize human safety." This would be especially true for health care fields or fields working with physical materials, such as engineering or trades. And this is precisely where authentic assessments come in because they have the chance to create more personalized, more involving, more task-oriented learning experiences. This personalized learner centered assessment can help increase academic integrity in our institutions.

Authentic assessment promotes deeper learning
Deeper learning and knowledge transfer (Herrington & Herrington, 1998). Deep learning involves things like extending ideas, detecting patterns, applying knowledge and skills in new contexts or in creative ways, and being critical of arguments and evidence" according to Merrilyn Goos in (Contributors, 2017). Deep learning is when one relates or extends ortransfers knowledge. This is in contrast with surface learning which involves recalling and reproducing content and skills.

Increased Student Engagement and Motivation
When assessments are perceived as relevant and meaningful (authentic), students are more intrinsically motivated to learn and engage deeply with the material (Mueller, 2005). Tasks connected to their lives, communities, or potential futures make learning

more purposeful.

Example: Assessing Kiswahili proficiency through creating a podcast on a local cultural issue is likely more engaging than a grammar translation exercise.

Improved Equity and Fairness

Authentic assessments offer diverse ways for students to demonstrate understanding, catering to different learning styles, strengths, and cultural backgrounds that might be disadvantaged by standardized, one-size-fits-all tests (Darling-Hammond & Adamson, 2013).

Renewable assessments, by allowing multiple attempts and focusing on growth over a single high-stakes moment, reduce test anxiety and provide opportunities for improvement, promoting a fairer evaluation of true capability (Sambell et al., 2019).

Enhanced Feedback and Learning (Formative Focus)

Both authentic and renewable assessments are inherently more formative. They generate rich, specific feedback throughout the learning process, allowing students to identify strengths, weaknesses, and areas for growth (Black & Wiliam, 1998). This feedback loop is essential for deep learning and content mastery.

Example: Feedback on drafts of a community research report or iterations of a designed solution provides actionable insights far more valuable than just a test score.

Preparation for Real-World Challenges

Authentic assessments prepare learners for the complexities of Kenyan society and the global economy by requiring them to tackle messy, open-ended problems similar to those they will encounter in careers, entrepreneurship, and civic life (Herrington & Herrington, 2006). Renewable skills like adaptability and continuous learning are fostered.

Sustainability and Resource Efficiency (Renewable Focus)

Renewable assessments, by design, are adaptable, reusable, and often digitized. This reduces the constant need to create entirely new assessments from scratch, saving teachers time and resources (Sambell et al., 2019). Digital platforms can also streamline administration, feedback, and record-keeping.

Teacher Professional Development

Designing and implementing authentic and renewable assessments challenges teachers to deepen their understanding of subject matter, pedagogy, and student learning. This fosters continuous professional growth and more responsive teaching practices (KICD, 2017).

2.4 Theoretical Framework

Foundational Theories Underpinning Authentic and Renewable Assessments

Authentic Assessments (AA) and Renewable Assessments (RA) represent significant shifts from traditional testing, grounded in robust learning theories that emphasize context, collaboration, knowledge construction, and relevance. The following three key theories provide a strong foundation: Social Constructivism (Vygotsky), Situated Learning (Lave & Wenger), and Connectivism (Siemens).

1. Social Constructivism (SC) by Lev Vygotsky
Core Principles

Vygotsky's theory posits that learning is inherently a social process. Knowledge is not merely transmitted but actively constructed by learners through interactions with more knowledgeable others (peers, teachers, community members) within a social and cultural context. Central concepts include the Zone of Proximal Development (ZPD) which is the difference between what a learner can do independently and what they can achieve with guidance and scaffolding the support provided to bridge this gap. Meaningful learning occurs through dialogue, collaboration, and shared problem-solving.

Relevance to Authentic & Renewable Assessments
Collaborative Tasks (AA & RA)

AAs and RAs often involve group projects, peer review, community consultations, or co-creation of knowledge. This directly reflects Vygotsky's emphasis on social interaction as the engine of cognitive development. Working together allows learners to access different perspectives, negotiate meaning, and scaffold each other's learning within the ZPD (Vygotsky, 1978).

Communal Aspect (RA)

The defining feature of RAs – that student work adds value to a public domain and can be built upon by future learners – embodies social constructivism. Students aren't just consumers but active contributors to an ongoing, communal knowledge-building process, mirroring how knowledge develops in society (Wiley & Hilton, 2018). They learn through contributing to the communal resource.

Dialogue and Feedback

Both AA and RA prioritize formative feedback from peers, instructors, or external stakeholders, creating a dynamic social process essential for refining understanding and products, consistent with Vygotskian principles.

Situated Learning (SL) by Jean Lave & Etienne Wenger
Core Principles

Lave and Wenger argue that learning is fundamentally tied to the activity, context, and culture in which it occurs. Knowledge isn't abstract and it's embedded in the practices and communities where it is used. Learning is a process of legitimate peripheral participation (LPP) within a Community of Practice (CoP). Learners start by participating in simple, peripheral tasks within a real-world community, gradually moving towards fuller participation and mastery by observing, practicing, and absorbing the community's norms, language, tools, and ways of thinking.

Relevance to Authentic & Renewable Assessments

Real-World Focus in AA is the core connection. AAs explicitly situate learning tasks within realistic contexts that mirror professional, civic, or personal challenges. By engaging in tasks that have meaning beyond the classroom such as writing a grant proposal, conducting a community survey, solving an engineering problem, learners acquire knowledge and skills inextricably linked to their application (Lave & Wenger, 1991). This fosters transferable competence.

Contextualized Knowledge (AA & RA)

Both AA and RA require learners to apply knowledge within specific scenarios, rejecting decontextualized recall. RAs, by contributing to real-world repositories such as OERs, public datasets and community resources, place the learner's work directly into an authentic context where it has potential use value.

Community Engagement (Potential for AA/RA)

Many AA/RA tasks involve interacting with professionals, community members, or authentic audiences, simulating participation in a broader CoP. Even if not fully immersive, the tasks reflect the practices and expectations of those communities.

Connectivism by George Siemens

Siemens proposed Connectivism as a theory for the digital age. It emphasizes that learning resides not only within individuals but also within networks and databases.

Core principles include:

learning is a process of connecting specialized information nodes; nurturing and maintaining connections is crucial

the ability to see connections between fields, ideas, and concepts is vital

currency (accurate, up-to-date knowledge) is the intent of learning activities

Decision-making is in itself a learning process.

Learning involves navigating complex information landscapes and leveraging technology.

Relevance to AA & RA
Open, Iterative Nature of RA

RAs are inherently networked. Students create resources knobs designed to be openly accessible, potentially linked to others, and built upon iteratively by future learners thereby forming a dynamic network. This directly embodies the principle of learning residing in networks and the iterative nature of knowledge development in a digital world (Siemens, 2004, 2005).

Information Literacy & Curation in AA & RA

Both AA and RA often require students to find, evaluate, synthesize, and ethically use diverse (often digital) information sources. This aligns with Connectivism's focus on navigating information networks and making informed decisions based on diverse inputs.

Leveraging Digital Tools

The creation, sharing, and iteration inherent in RAs, and the

research/presentation components of many AAs, necessitate the use of digital tools and platforms, reflecting the technological context central to Connectivism.

Currency & Relevance

The focus of AA on real-world problems and RA on creating useful, updatable resources ensures learning activities prioritize currency and relevance which are key concerns in Connectivism given the rapid pace of knowledge change.

A Coherent Foundation for AA/RA

These theories collectively provide a powerful rationale for AA and RA as explored below:

Learning is Active & Constructed

Learners build knowledge through doing meaningful tasks (Situated Learning), interacting with others (Social Constructivism), and connecting information (Connectivism). AA/RA provide the active, engaging contexts for this.

Context is Paramount

Knowledge and skill are inseparable from the situations where they are used (Situated Learning). AA/RA ground learning in authentic contexts.

Social Dimension is Crucial

Learning thrives through collaboration, dialogue, and contribution to a community (Social Constructivism, Situated Learning). AA/RA incorporate collaboration, feedback, and in the case of RA, communal knowledge building.

Networks & Technology Matter

Learning involves navigating and contributing to information networks, especially in the digital era (Connectivism). RA explicitly leverages this, and AA increasingly does.

Focus on Process & Application

All three theories prioritize the process of learning, problem-solving, and applying knowledge in relevant ways over simple recall – the essence of AA/RA.

By aligning assessment design with these theories, educators move beyond measuring isolated facts towards evaluating the complex, contextualized, collaborative, and networked competencies needed for success in the 21st century.

3. METHODOLOGY

This study employed a desktop research (literature review) methodology to systematically identify, analyze, and synthesize

existing scholarly work on the topic. The process was guided by a structured protocol to ensure comprehensiveness and replicability.

3.1 Search Strategy

A systematic search was conducted in electronic databases, including Google Scholar, ERIC (Education Resources Information Centre), and African Journals Online (AJOL). The search utilized Boolean operators with the following key terms and combinations: ("authentic assessment" OR "alternative assessment" OR "performance assessment") AND ("higher education" OR "university") AND Kenya, and ("renewable energy" OR "green skills" OR "sustainable development") AND ("higher education" OR "curriculum") AND Kenya. The search was limited to literature published between 2000 and 2024 to ensure relevance.

3.2 Inclusion and Exclusion Criteria

Studies were included if they were: (a) peer-reviewed journal articles, books, or credible reports; (b) focused on assessment practices in Kenyan higher education or, more broadly, in sub-Saharan Africa with applicable findings; (c) discussed renewable assessment, skills development, or education for

sustainable development in the Kenyan context. Editorials, non-peer-reviewed articles, and studies unrelated to the education sector were excluded.

3.3 Data Extraction and Synthesis

The initial search yielded over 80 publications. After reviewing titles and abstracts for relevance, 35 sources were selected for full-text analysis. Data from these sources were extracted thematically. Thematic analysis was employed to identify, analyze, and report patterns (themes) within the data, specifically focusing on extracting information related to possibilities, challenges, and solutions (Braun & Clarke, 2006). The findings were synthesized into a coherent narrative summary.

4. FINDINGS AND DISCUSSION

The synthesis of literature revealed three central themes.

4.1 Possibilities for Renewable and Authentic Assessment in Kenya

The literature strongly suggests that authentic assessment holds immense potential for revolutionizing higher education in Kenya. By engaging students in tasks like designing community-based renewable energy projects or analyzing real data from Kenyan wind farms, assessments become "renewable"—they generate continuous learning and sustainable skills (Vibeka, n.d.). This approach directly addresses the skills gap identified in the renewable energy sector, fostering competencies in critical thinking, innovation, collaboration, and practical problem-solving (Othoche, 2025). Furthermore, authentic assessment enhances student engagement and motivation by making learning relevant to national development goals like Vision 2030, thereby increasing the "social value" of their education (Villarroel et al., 2018).

The possibilities arise from;

- AA and RA aligns with National Goals of Education, meet Vision 2030 skills demands and leverages on Digital Literacy Programme potential (Ministry of Education, Kenya, 2019).

- AA and RA have potential of enhancing relevance through connecting learning directly to Kenyan societal, economic, and professional contexts through AA tasks. Examples of authentic tasks include, community projects, case studies on local issues, and simulations of Kenyan workplace scenarios.

- RA is capable of leveraging EdTech using OER platforms, e-portfolios such as Mahara, blogs, wikis, collaborative online tools for iterative feedback and open sharing.

- Promoting innovation and critical thinking by moving beyond memorization to analysis, synthesis, and creation. These are core to both RA and AA/

Examples in Kenyan context of potential AA and RA tasks include;

- developing a sustainable business plan for a local SME (AA),

- creating a public health campaign for a rural community (AA),

- designing an engineering solution for a local infrastructure problem (AA)

- collaboratively building an open resource bank on a course topic (RA),

- Iterative drafting of policy briefs with peer review.

4.2 Challenges and Barriers to AA and RA Implementation in Kenya

Despite the clear possibilities, the implementation of authentic assessment in Kenya faces formidable challenges, which are largely systemic. Implementing these assessments effectively requires addressing challenges like teacher training needs, resource constraints (especially technology access in rural areas), large class sizes, shifting entrenched cultural views of assessment, and developing robust moderation systems to ensure reliability and validity (Kisirkoi&Mse, 2016; Achieng, 2024).

4.2.1 Infrastructural & Resource Constraints

A recurring theme is the lack of adequate physical resources, technology, and funding (Changeiywo, 2020). Kenya has unreliable internet access, limited hardware/software, electricity issues, especially outside major urban centres (Tarus et al., 2015). There exists financial constraints for new tools/platforms.

4.2.2 Large Class Sizes

Large classes pose practical difficulties in managing iterative feedback (RA), complex project supervision (AA), and grading authentic tasks meaningfully. Large student-to-lecturer ratios common in public universities, make it logistically difficult to administer and grade complex, individualized assessments (Changeiywo, 2020).

4.2.3 Faculty Capacity and Readiness

Most of learning institutions in Kenya lack of training in RA/AA design, implementation, and grading. Educators demonstrate resistance to change from the current assessment

model. In addition, educators have high teaching loads limiting time for innovation need in AA and RA (Chang'ach, 2012). This is supported by Muthaa& Mwaura, (2020) that many academic staff have not been trained in designing or implementing authentic assessments. This lack of capacity, coupled with resistance to changing established practices, hinder adoption of AA and RA.

Therefore, there is limited understanding among faculty and students of the principles and benefits of RA/AA as educators lack skills needed for AA and RA.

4.2.4 Examination-Oriented Culture:

The deep-rooted culture that equates learning with performance in final examinations presents a significant barrier. This culture is reinforced by accreditation bodies and institutional policies that favour standardized testing over innovative assessment (Komba &Mwakabenga, 2018).

4.2.5 Policy-Practice Misalignment

While national policies like Vision 2030 advocate for skills development, there is often a disconnect between these macro-level policies and micro-level implementation guidelines within university curricula (Changeiywo, 2020).

CUE guidelines and institutional regulations often emphasize summative exams and standardized formats, lacking flexibility for inclusion of diverse assessment modes (Kombo et al., 2017).

4.2.6 Cultural Factors

There exists deeply entrenched "exam culture" among students, parents, and some faculty in Kenya leading to scepticism towards alternative assessment and concerns about academic integrity in open/online contexts.

4.2.7 Student Preparedness

Students in Kenya have varying levels of digital literacy, self-directed learning skills, and familiarity with collaborative/iterative work required for RA/AA. Levelling this diversity among learners poses a challenge.

4.3 Solutions: A Multi-Stakeholder Approach

The literature proposes several interconnected solutions to these challenges as provide below:

4.3.1 Strategic Integration of Technology

Leveraging educational technology can help manage the logistical burden of authentic assessment in large classes, for example, through e-portfolios or online collaboration tools.

4.3.2 Fostering Industry Partnerships

Collaboration with relevant organisations such as energy companies can provide real-world contexts for assessments, ensuring their authenticity and relevance while bridging the academia-industry gap. In addition, collaboration with OER initiatives such as Teacher Education for Sub-Saharan Africa, (TESSA), industry partners (for authentic tasks), and NGOs can provide the much needed contexts for relevant AA/RA practice.

4.3.3 Strategic Faculty Development

There should be mandatory, ongoing training workshops on RA/AA design, technology integration, effective feedback strategies, and alternative grading such as rubric among faculty especially in higher education institutions. Mentorship programs should also be introduced. Continuous professional development (CPD) programs are crucial to equip lecturers with the skills to design and manage authentic assessments effectively.

4.3.4 Curriculum Reform

HEIs need to revise curriculum documents to explicitly integrate and value authentic assessment methods.

4.3.5 Phased and Context-Sensitive Integration

Institutions should start small pilots in specific courses/departments and adapt models to local constraints such as blended offline/online RA and group-based AA while focusing on incremental change.

4.3.6 Policy Advocacy and Reform

Institutions to engage Commission of University Education (CUE) and university senates to revise assessment policies, recognizing and valuing diverse evidence of learning, including RA/AA outputs. This is to be followed by development of clear policy guidelines.

4.3.7 Targeted Investment

Prioritize investment in reliable ICT infrastructure, learning management systems (LMS) supporting AA/RA features, and accessible digital tools. Explore low-tech alternatives where necessary.

4.3.8 Building Communities of Practice (CoPs)

Foster networks for faculty to share resources, experiences, challenges, and successes in implementing RA/AA.

4.3.9 Student Support and Orientation

Explicitly teach students the rationale and skills needed for RA/AA (digital literacy, self-assessment, peer review, project

management) and also manage their expectations.

5 CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

The shift towards authentic and renewable assessments is not merely a pedagogical trend but a fundamental necessity for Kenya's education system. It aligns perfectly with both the CBC's vision and Vision 2030. The assessments aim at fostering the skills needed for national development and global competitiveness in addition to promotion of equity and deeper learning, and optimal utilization of available resources.

This paper concludes that the integration of authentic assessment in Kenyan higher education is a critical enabler for achieving the nation's goals to become a middle level economy. While the challenges of resource limitations, cultural inertia, and capacity gaps are significant, the possibilities for creating a more relevant and impactful education system are compelling. Investing in the capacity building among faculty and installation of infrastructure needed for these assessments is an investment worth undertaking to insure the future of Kenyan learners and the nation as a whole. The solutions lie not in isolated interventions but in a coordinated, systemic effort.

5.2 Recommendation

The following are some recommendations:

1. For University Administrations: To prioritize and fund CPD programs focused on authentic assessment and to initiate curriculum review processes that embed these practices.

2. For Policymakers: To align accreditation standards with skills-based outcomes, encouraging universities to move beyond traditional examinations.

3. For Future Research: To conduct empirical studies on the impact of specific authentic assessment tasks on graduate outcomes in STEM and other relevant fields.

By embracing authentic and renewable assessments, Kenyan universities can truly become engines of development of human capital that can help steer the country towards attainment of Vision 2030.

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