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Causes and Solutions to Examination Malpractice in Secondary Schools in Senanga District, Zambia: AI-Based Integrity Systems, Digital Proctoring and Ethical Education

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Abstract —Examination malpractice encompassing cheating, leakage of examination materials, impersonation, and collusion between candidates and supervisors poses a fundamental threat to the integrity, validity, and social value of educational credentials. In Senanga District, Zambia's Western Province, examination malpractice in secondary school national examinations has been documented as a persistent challenge, undermining public trust in qualification standards, disadvantaging honest candidates, and corrupting the meritocratic function of formal education. This article investigates the causes and solutions to examination malpractice as perceived by pupils in two selected secondary schools in Senanga District, contextualising findings within global scholarship on academic integrity, AI-based examination monitoring systems, digital proctoring technology, and ethical education frameworks. Drawing on a descriptive survey of pupils and teachers, findings identify examination pressure and high-stakes assessment culture, inadequate preparation, peer influence, supervisor complicity, and economic incentives as primary causal factors. AI-powered digital proctoring systems, blockchain-enabled credential verification, and integrated ethical education programmes are identified as promising solutions. Policy recommendations are presented.

Keywords *— Examination Malpractice; Academic Integrity; Senanga District; Zambia; AI Proctoring; Blockchain Credentials; Ethical Education.*

1. Introduction

The integrity of examination systems is fundamental to the credibility, fairness, and developmental value of educational credentials. When examination malpractice is prevalent whether through candidate cheating, question paper leakage, supervisor collusion, or impersonation the qualifications produced by those examinations lose their value as reliable signals of knowledge and competence, distorting labour market decisions, university admissions, and public service appointments (Venice et al., 2025b; Vettriselvan et al., 2025d). In Zambia, the Examination Council of Zambia (ECZ) has documented repeated examination malpractice incidents in national examinations Grade 9, Grade 12, and school-based assessments with rural districts including Senanga among the most affected areas (Vettriselvan & Rajan FSA, 2019; Gayathri et al., 2025b).

Global advances in AI-powered digital proctoring, blockchain-enabled credential verification, and biometric identity authentication offer technological pathways for substantially reducing examination malpractice while maintaining the accessibility and cost-effectiveness of large-scale national examination systems (Venice et al., 2025a; Arockia et al., 2025). This article examines the causes and perceived solutions to examination malpractice in Senanga District secondary schools and identifies evidence-based integrity enhancement strategies.

2. Literature Review

2.1 Causes of Examination Malpractice

Examination malpractice is a multidetermined phenomenon driven by interacting individual, institutional, social, and systemic factors (Vettriselvan et al., 2025d; Zahoor et al., 2025). High-stakes assessment culture where examination results determine access to post-secondary education, employment, and social mobility creates intense performance pressure that motivates malpractice among learners who perceive the risk of being caught as lower than the risk of examination failure (Venice et al., 2025e; Vettriselvan & Rajan FSA, 2019). Inadequate academic preparation resulting from poor instructional quality, resource scarcity, learner absenteeism, and limited study time is a proximal cause of malpractice among learners who resort to cheating as a response to inadequate knowledge and skills (Gayathri et al., 2025b; Arockia et al., 2025).

Peer influence and social normalisation of malpractice where cheating is perceived as a common, socially accepted response to examination pressure rather than a moral violation significantly lower individual inhibition against malpractice participation (Venice et al., 2025a;

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Ranganathan et al., 2024). Supervisor and teacher complicity including the provision of answers to candidates, tolerance of collaborative cheating, and question paper leakage represents an institutional integrity failure with particularly damaging consequences for examination system credibility (Vettriselvan et al., 2025c; Venice et al., 2025b).

2.2 AI and Digital Examination Integrity Solutions

AI-powered examination integrity technologies offer significant potential for reducing malpractice while maintaining examination accessibility and cost-efficiency (Venice et al., 2025b; Akila et al., 2025). Computer-based examination platforms with AI-powered behavioural monitoring detecting unusual candidate behaviour patterns indicative of cheating through analysis of gaze direction, typing patterns, and browser activity substantially reduce online examination malpractice without requiring human proctors for every candidate (Venice et al., 2025c; Devi et al., 2025).

Blockchain-enabled examination result verification systems provide tamper-proof, instantly verifiable examination records that prevent credential forgery and misrepresentation addressing a significant post-examination malpractice dimension (Venice et al., 2025d; Rajeswari et al., 2026). AI-powered question paper security systems that randomise examination questions across candidates ensuring that no two candidates in the same examination hall receive identical question sets substantially reduce the benefits of collaborative cheating and leakage (Venice et al., 2025a; Vasantha et al., 2025). Biometric identity verification systems using fingerprint or facial recognition to confirm candidate identity at examination entry address impersonation malpractice more effectively than conventional photograph-based verification (Venice et al., 2025b; Swadhi et al., 2025a).

2.3 Ethical Education and Academic Integrity Culture

Technological malpractice prevention measures are necessary but insufficient without complementary ethical education that builds the intrinsic motivation for academic honesty (Zahoor et al., 2025; Elkin et al., 2025; Venice et al., 2025f). Research on academic integrity consistently demonstrates that learners who understand the ethical dimensions of examination fairness including its consequences for honest candidates, credential system credibility, and personal moral integrity are significantly less likely to engage in malpractice than those who view cheating purely in terms of its practical detection risk (Vettriselvan et al., 2025d; Meena et al., 2025). Emotional intelligence development particularly the capacity for empathic perspective-taking and moral reasoning under pressure is identified as a key protective factor against malpractice participation (Zahoor et al., 2025; Vettriselvan et al., 2025a).

2.4 Systemic Dimensions: Assessment Reform

Fundamental examination malpractice prevention requires addressing the systemic conditions particularly high-stakes assessment culture and inadequate instructional quality that generate the demand for malpractice in the first place (Venice et al., 2025c; Gayathri et al., 2025b). Assessment reform toward competency-based, continuous, and portfolio-based evaluation reduces the catastrophic consequences of a single high-stakes examination failure that motivates much malpractice behaviour (Vasantha et al., 2025; Vettriselvan et al., 2025c). AI-powered formative assessment platforms that provide learners with continuous feedback on their progress toward examination readiness reduce examination anxiety and perceived need for malpractice by giving learners accurate, timely information about their preparation status (Venice et al., 2025b; Arockia et al., 2025).

3. Methodology

A descriptive survey design was used to investigate causes and solutions to examination malpractice in two selected secondary schools in Senanga District, Zambia. A mixed-methods approach combined pupil questionnaires, teacher interviews, and school administrator key informant discussions (Kombo & Tromp, 2014; Orodho & Kombo, 2012). The sample comprised 80 pupil respondents drawn by stratified random sampling, 16 teacher interviewees, and 4 school administrator key informants. Pupil questionnaires measured malpractice experience, perceived causes, and solution preferences; teacher interviews explored supervisory experience, observed malpractice patterns, and prevention strategy views. Thematic analysis was applied to qualitative data; descriptive statistics for quantitative data.

4. Findings and Analysis

4.1 Malpractice Prevalence and Forms

Among pupil respondents, 68% reported personal direct observation of examination malpractice in at least one national or school-based examination. The most common forms observed were candidate copying from peers (reported by 82% of those observing malpractice), use of concealed notes (67%), supervisor toleration of cheating (45%), and information passed between candidates through non-verbal signals (38%). Examination question leakage prior to the examination was reported by 28% of respondents a finding indicating serious question paper security breaches (Venice et al., 2025b; Vettriselvan et al., 2025d).

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4.2 Perceived Causes

Examination pressure and fear of failure was identified as the primary cause of malpractice by 85% of pupil respondents, followed by inadequate preparation arising from poor instructional quality (72%), peer influence and social normalisation (68%), supervisor complicity (52%), and economic incentives for examination centres with high pass rates (38%). Moral and ethical dimensions including disregard for the impact of cheating on honest candidates were acknowledged as causal factors by 45% of respondents, suggesting partial awareness of academic integrity principles (Zahoor et al., 2025; Vettriselvan et al., 2025d).

4.3 Perceived Solutions

Pupil respondents identified the following as most effective malpractice prevention solutions: improved instructional quality and examination preparation support (87%), stricter supervision during examinations (82%), teacher ethics training and accountability (75%), and adoption of digital examination monitoring (55%). Teacher respondents additionally identified regular professional ethics education for teachers and pupils (cited by 92%) and question paper security system improvements (88%) as priority solutions (Venice et al., 2025a; Gayathri et al., 2025b).

4.4 Institutional Response Adequacy

Current institutional responses to examination malpractice in both study schools were characterised as primarily reactive focusing on investigation and punishment after malpractice detection rather than systematic prevention. No school possessed a written academic integrity policy. Ethics education addressing examination malpractice was absent from formal curricula in both schools (Vettriselvan et al., 2025d; Venice et al., 2025f).

5. Discussion

The high prevalence of examination malpractice documented in Senanga District secondary schools and the systemic causal factors identified indicate that malpractice is not a peripheral aberration but a structural feature of a high-stakes assessment system under-resourced in instructional quality, ethical education, and monitoring capacity. Technological solutions AI proctoring, blockchain verification, question randomisation can reduce the feasibility and benefit of specific malpractice forms, but cannot alone address the demand-side drivers (Venice et al., 2025b; Akila et al., 2025; Rajeswari et al., 2026). Sustainable malpractice reduction requires complementary investment in instructional quality, ethical education, and assessment reform that progressively reduces the catastrophic consequences of examination failure that motivate malpractice behaviour (Zahoor et al., 2025; Venice et al., 2025c).

6. Conclusion and Recommendations

This article has examined causes and solutions to examination malpractice in Senanga District secondary schools, connecting local evidence with global scholarship on AI integrity systems and ethical education. Recommendations: (1) adopt AI-powered digital proctoring and question randomisation systems for national examinations (Venice et al., 2025b; Akila et al., 2025); (2) implement blockchain-enabled examination result verification preventing credential fraud (Venice et al., 2025d; Rajeswari et al., 2026); (3) integrate academic integrity and ethics education across secondary school curricula (Zahoor et al., 2025; Vettriselvan et al., 2025d); (4) reform high-stakes assessment toward continuous, competency-based evaluation reducing single-examination catastrophe risk (Venice et al., 2025c; Vasantha et al., 2025); and (5) deploy AI-powered formative assessment platforms building examination readiness and reducing anxiety-driven malpractice motivation (Venice et al., 2025a; Arockia et al., 2025).

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