

Students' Perspectives on Invigilation as An Approach to Prevent Academic Dishonesty: A Case of Higher Education Institutions in Zambia

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Abstract:

The study explored students' perspectives on invigilation as an approach to prevent academic dishonesty, focusing on the higher learning institutions in Zambia. Through utilizing exploratory research design and convenient sampling, 295 students participated in assessing their perception of the effectiveness of invigilation, analyzing how adequate invigilation practices prevent academic dishonesty, and examining students' experiences with different methods of invigilation during examinations. Findings revealed that invigilation is an effective method in reducing examination cheating, as agreed by the majority of participants (40.3%). The study further established that participants were satisfied by the adequacy in relation to the number of invigilators during examinations, as shown by 40.9% of participants. It was also found that among the three methods of invigilation, physical invigilation was indicated as the most effective. From the findings, the study recommended that higher learning institutions may need to adopt hybrid methods of invigilation; this was seen as a way through which examination cheating could be reduced. Furthermore, it was noted that adopting the hybrid method may help to reduce anxiety among students while improving vigilance among invigilators.

Keywords: academic dishonesty, higher education institutions, invigilation, Zambia

Introduction

Academic dishonesty has become a common disease affecting higher education institutions. The practice is widespread in universities, colleges, and schools in both third-world countries and first-world countries (Mwamwenda, 2012). Similar studies conducted by Dejene (2021) and Cheng et al. (2021) revealed that academic dishonesty has its genesis at a lower level where the majority of students cheat in order to progress to the next grade. However, the growing involvement among students poses a risk to methods of learning, further undermining the integrity of education (Ramos, Gonçalves & Gonçalves, 2020). This is so because learning in many higher education institutions is measured by students' capability to understand and respond to critical questions during examinations, which in turn prepares them for critical roles in society (Guangul et al., 2020); therefore, an act of dishonesty during such assessments raises concerns on the quality of results, which further compromise the workforce employed.

In a third-world country like Zambia, where development is a critical agenda, academic dishonesty becomes the source of lack of transparency, accountability, and governance within responsible government ministries. In an effort to ensure quality, Zambia has mandated the Higher Education Authority (HEA) to provide accreditation as well as conduct frequent inspections for both new and existing higher education institutions. HEA had, by March of 2024, registered a total of 160 higher education institutions, broken down into 141 private, while 19 were public institutions (HEA, 2024). The increase in the number of higher education institutions accredited is therefore seen as a huge contribution to foster development, provided that critical approaches such as invigilation are enhanced in all institutions to prevent academic dishonesty.

While several studies focusing on quality assurance in Zambia have been conducted, particularly those focusing on quality assurance mechanisms (Daka et al., 2025), the navigation of opportunities and challenges (UNESCO, 2025), and those on quality assurance systems in selected private universities (Mooba & Daka, 2023), there is little literature on student-focused studies, specifically on documenting perspectives of learners on how invigilation plays a role in preventing academic dishonesty.

Literature Review

Students' perceptions on the role of invigilation in reducing cheating during examinations

Over the years, educational systems in both developed and developing countries have been grappling with very serious problems of examination irregularities, including cheating. According to Teigaga (2025), examination integrity is a key foundation for academic assessment, providing fundamental methods through which students acquire knowledge, skills, and overall learning results. Through this process, an assurance that academic qualifications accurately reflect a student's capabilities and competencies is created (Asuru, 2012). However, examination irregularities such as cheating, plagiarism, impersonation, and collusion pose significant threats to this integrity, leading to concerns about the credibility and validity of academic credentials (Omiebi,

2016). Such breaches not only compromise the fairness of the examination process but also erode public trust in educational institutions and their graduates.

As observed by Amadi & Opuiyo (2018) and Okorie (2018), most examination irregularities occur while the examination is in progress, in the form of students bringing in unauthorized materials, writing on currency notes and identity cards, spying on other candidates in examination halls, substitution of answer sheets, and impersonation, among others. For example, Clariana et al.'s (2013) study in Spain reported that more than half 50% of the students had a habit of often cheating, and boys cheat noticeably more frequently than girls. Related findings were also reported in other studies carried out in the United Arab Emirates (UAE) and Croatia by Dodeen (2012) and Taradi et al. (2010), who revealed that the majority of students disclose engaging in academic dishonesty, including cheating during the examinations.

Invigilation, the process that involves the supervision of students during examinations, is widely regarded as a critical mechanism for deterring such dishonest practices and ensuring equity among examinees (Rosalind, 2016). The fundamental purpose of invigilation is to guarantee that each student take part in an examination under equal conditions and to actively discourage unauthorized behavior such as copying, whispering, or using electronic devices to access answers (Awoniyi et al., 2024). Nevertheless, Nkechi and Njoku (2016) argued that while invigilation plays a major role in curbing examination irregularities, its effectiveness depends on an individual invigilator. Kumar and Nair (2020) stressed that invigilators who are vigilant ensure that examination malpractice is far from the examination center. They also ensure that any attempts at malpractice are promptly identified and addressed. However, in instances where an invigilator is not vigilant or is irresponsible, they may easily allow examination malpractice to occur right behind their nose (Williams and Wong, 2009). Pritchard (2018) and O'Sullivan (2019) revealed that students believed that cheating was less prevalent in examination rooms where invigilators were vigilant, mobile, and actively engaged in monitoring candidates. Similarly, Starovoytova and Arimi (2017) noted that students perceived the likelihood of engaging in dishonest behavior to decrease when invigilators maintained constant visibility and enforced rules consistently. These findings suggest that the students' fear of being caught is a powerful influence on their conduct. Similarly, Cluskey et al. (2011) reveal strict invigilation was considered critical during examinations as it reduced the temptation to cheat, even among those who might otherwise consider dishonest practices. Implying that students complied with examination regulations whenever they noticed that invigilators were attentive.

However, Newton (2016) opposes that students often view strict invigilation with fairness, arguing that regulation protects honest learners from being disadvantaged by dishonest peers. Therefore, invigilators are not just responsible for supervising examinations but also act as frontline defenders of academic integrity, whose observance and familiarity with institutional policies help minimize incidences of examination anomalies. Vincent-Robinson (2016) proposed that invigilators should be given a small allowance to motivate them and ensure that they are vigilant during the exam period. Therefore, the presence, alertness, and conduct of invigilators play a decisive role in shaping students' behavior in the examination room.

Students' views on the adequacy of current invigilation practices in ensuring exam integrity

The adequacy of invigilation practices plays a crucial role in safeguarding the integrity, credibility, and fairness of examination systems in all levels of education. Oguche et al. (2023) observed that examinations go beyond being a measure for individual academic performance but are also a foundation for issuing certification, progression, and professional competence. Consequently, the effectiveness of invigilation practices is critical in ensuring that assessment outcomes genuinely reflect students' knowledge and abilities rather than their capacity to exploit weaknesses in supervision (Danbaba and Bako, 2021). McCabe et al. (2006) assert that when invigilation is adequately structured and effectively implemented, it minimizes opportunities for academic malpractice, promotes equity among candidates, and reinforces confidence in the legitimacy of academic credentials. Conversely, inadequate or poorly conducted invigilation undermines the purpose of examinations by creating opportunities for students to engage in cheating, collusion, impersonation, and other forms of academic malpractice (Forkuor et al., 2019; Dadzie and Annan-Brew, 2023).

As observed by Gallant (2017), where invigilators are inattentive, biased, or inadequately prepared, students often perceive examinations as unfair or manipulable, which in turn weakens trust in academic assessment systems. In such cases, the validity of examination results is compromised, and the credibility of academic qualifications is called into question (Bretag et al., 2019). Adequate invigilation, therefore, is not merely a procedural requirement but a core quality assurance mechanism that upholds academic standards, institutional reputation, and public confidence in educational qualifications (Alabi, 2014). A study conducted by Balbuena and Lamela (2015) focusing on the prevalence, motives, and views of academic dishonesty among students in higher education reported that many students perceived invigilation as ineffective when invigilators appeared distracted, permissive, or indifferent. The study further revealed that students reported that in such situations, cheating was viewed as a normal and low-risk activity. This perception was reinforced in a study by Siamunako and Magasu (2021), where students unanimously acknowledged that examination malpractice was widespread despite the presence of invigilators, largely because supervision was perceived as weak. Blau et al. (2017) further reiterate that some invigilators do not care about possible exam irregularities but are engaged in other activities, including reading newspapers, marking reports, watching videos, and chatting during examinations.

More interestingly, the findings of another study carried out by Akindele (2018) revealed that students believed cheating was more likely when invigilators showed favoritism, accepted inducements, or failed to sanction offenders. The study further reported that students expressed the belief that invigilation existed only as a formality rather than a meaningful control mechanism. One would therefore argue that the prevalence of such practices by invigilators when conducting examinations weakens students' confidence in examination systems and reduces trust in institutional commitment to integrity. In the same vein, Curtis and Clare's (2017) study indicated that students reported that some invigilators ignored suspicious behavior, engaged in private conversations, or allowed students to consult unauthorized materials. The findings also indicated that students perceived invigilation as symbolic rather than

effective. Similarly, in his study, Olatunbosun (2009) reported that students viewed invigilation as ineffective when institutional stakeholders indirectly encouraged malpractice through silence or tolerance.

In concordance with the above study, Mulongo et al. (2019) in their study also reported that some students admitted that familiarity between invigilators and candidates reduced the perceived risk of punishment, thereby encouraging malpractice. This suggests that students judge the effectiveness of invigilation not only by its presence but also by the professionalism and impartiality of those enforcing it. Related findings were also reported in another study done by Ndukano and Silas (2023) on the factors influencing examination malpractices among students, where it was revealed that 52% of the students reported that the teachers gave some students hints that helped them answer exam questions. This is supported by Situma and Wasike's (2020) study, which found that the persistence of the challenge of examination malpractice in Kenyan colleges and universities is a result of the involvement of academic staff and other officials in the unethical practice. The study also reported that poor invigilation, including a lack of enough invigilators in exam rooms and overcrowding, leads to exam cheating.

Moreover, other studies conducted in Kenya and Tanzania revealed that the majority of students reported that some examination strategies, including invigilation and checking of students before allowing them to enter the examination venues, were not effectively implemented, thereby creating opportunities for cheating (Ambani et al., 2019; Rwezaura et al., 2023). Okoe and Adie (2016) and Hassan and Watt (2017) in their studies further indicated that students felt that invigilation methods were ineffective in preventing cheating, often due to limited invigilator mobility and insufficient training in spotting sophisticated malpractice strategies. Therefore, while invigilation remains a critical mechanism for maintaining academic integrity, its effectiveness or adequacy in preventing examination dishonesty, including cheating, is largely dependent on the competence, training, and active engagement of invigilators.

Students' experiences with different types of invigilation and their influence on academic dishonesty

Over time, colleges and universities all over the world have been using different types of invigilation, from traditional face-to-face supervision in exam halls to online or remote proctoring systems (Van den Berg, 2025). These different ways of invigilating have changed how students feel about exams and how likely they are to cheat on them. In traditional face-to-face invigilation, students take tests in controlled settings like exam halls, where invigilators keep an eye on their behavior (Marano et al., 2024). Students usually think that this kind of invigilation is strict but necessary to make sure that academic assessments are fair and credible. Dawson (2020) asserts that the physical presence of invigilators is frequently regarded as a significant deterrent to academic dishonesty, as students recognize that their conduct is subject to direct observation.

In a similar vein, Stuber-McEwen et al. (2009) discovered that students predominantly regarded in-person invigilation as a valid method for upholding academic standards. Nonetheless, students indicated that traditional examination environments can induce anxiety and stress. Balash et al. (2021) observe that expansive, silent examination halls, the incessant movement of invigilators, and the constraints of time limits can

engender a daunting environment that adversely impacts the concentration and performance of certain students. Students who suffer from test anxiety or learning disabilities may find exams especially stressful, even when they don't mean to cheat (Adie and Oko, 2016).

Despite this, many colleges and universities are using digital proctoring systems like the invigilator app and Proctorio instead of traditional proctoring because online and remote learning is growing so quickly (Arno et al. 2021). These systems utilize webcams, screen recording, eye-tracking software, and artificial intelligence to oversee students during online assessments (Abdalqhadr, 2020; Nikou et al., 2022). Studies show that students' experiences with online invigilation are varied and complicated. Some students have positive feelings about online invigilated exams, mostly because they are comfortable and flexible (Jia and He, 2022). For example, Coniam et al. (2021) found that students liked being able to take tests in places they were already comfortable with, which eased the stress of crowded testing rooms. Likewise, the results of a study conducted by Muckle et al. (2022) indicated that students appreciated the convenience of remote assessments, as it enabled them to operate in environments where they felt more at ease and concentrated. This comfort often resulted in diminished anxiety levels in comparison to conventional examinations.

In a separate study examining the necessity or absence of digital proctoring, Duncan and Joyner (2022) discovered that students regarded online invigilated examinations as less stressful and more tailored to their specific requirements. The results also showed that students said they could concentrate better in non-traditional exam halls because they could control things like where they sat and how loud the noise was. This indicates that various forms of invigilation may yield varying impacts on students based on their individual circumstances.

Further, as observed by Harmon et al. (2010) and Ogunjobi et al. (2021) when compared with traditional face-to-face settings, the technologies associated with monitoring of the online examination can provide better exam security and integrity. In their study, Karim et al. (2014) also found that the use of remote online proctoring decreases instances of student cheating. Similarly, Kolski and Weible (2019) stressed that the importance of academic integrity could be reinforced when students are aware of the instructors reviewing their recorded exam sessions.

However, Dyer et al. (2020) contend that, while some students believe that digital proctoring systems are effective in preventing cheating through camera monitoring, screen recording, and artificial intelligence detection tools, others perceive online exams as easier to manipulate. Reedy et al. (2021) posit that the absence of physical invigilators makes it more tempting for students to engage in dishonest behavior such as consulting notes, using smartphones, or receiving external assistance. For instance, a study done by King et al. (2009) revealed that the majority of students felt that cheating was easier in an online environment compared to a traditional face-to-face examination room. In the same vein, Berkey and Halfond (2015), in their study, reported that 84% of the students agreed that student dishonesty in online test-taking was a significant issue. Similarly, Watson and Sottile's (2010) study also indicated that students reported that they would be more than four times more likely to cheat in an online class.

Despite these positive experiences, many students have also raised significant concerns regarding online invigilation. One major issue relates to the privacy and

security of students' personal information and data. In a study by Ngqondi et al. (2021), students indicated concerns about strangers accessing their computers and personal information during the authentication process. Sietses (2020), Silverman et al. (2021), and Bergmans et al. (2021) stated that students feel uncomfortable with the requirement to turn on their cameras, share their screens, or allow invigilators to scan their personal rooms before and during examinations. This sense of being constantly monitored in their own private space can create feelings of intrusion and unease, which may negatively affect their focus and confidence (Hussein et al., 2020; Balash et al., 2021). Online invigilation may, in certain instances, exacerbate psychological pressure rather than alleviate anxiety, especially for students who are already apprehensive about digital surveillance (Kharbat and Daabes, 2021).

Students' experiences with online invigilation are also affected by their worries about technology. Njuguna (2022) says that problems with technology, like unstable internet connections, software bugs, devices not working with invigilation software, and not having technical support available in real time, can get in the way of students' exams. In these cases, students might get upset or anxious, which can hurt their performance (Verhoef and Coetser, 2021).

For instance, Cheek (2020), Harwell (2020), and Barrett (2021) in their studies revealed that some students reported that constant video and audio monitoring makes them feel distracted or overly cautious, as they fear that normal movements or background noise might be misinterpreted as cheating. Similar results were also reported in another study by Arnò et al. (2021), who found that students identified video and audio difficulties, as well as connectivity and affordable and stable internet, as their primary technology challenges in online examinations.

In South Africa, Makoza's (2025) study also analysed student's perceptions on the use of a mobile proctoring application called The Invigilator. The findings revealed that the majority of the students surveyed reported technical problems, such as limited technical support and delays in feedback during online assessments when using the app. The study further indicated that these problems were hindering students from completing online assessments and affecting their academic performance. Additionally, students with low computer literacy or little experience in digital assessment-taking also raised individual concerns with online invigilation (Mutawa and Sruthi, 2022; Conijn et al., 2022).

Ultimately, while both traditional face-to-face and online invigilation aim to preserve examination integrity, their psychological, technological, and ethical impacts on students differ significantly. Institutions of higher learning must therefore strike a balance between effective invigilation practices and student well-being, ensuring that assessment environments, whether physical or digital, are fair, secure, and supportive rather than overly punitive or invasive.

Theoretical Framework

Theory of Planned Behaviour (TPB)

This study was guided by the Theory of Planned Behavior (TPB), developed in 1991 by Icek Ajzen (Ajzen, 1991). This theory posits that an individual's behavior is primarily determined by behavioral intentions shaped by three key constructs, namely, attitude

towards the behavior, subjective norms, and perceived behavioral control, as depicted in Figure 1 below.

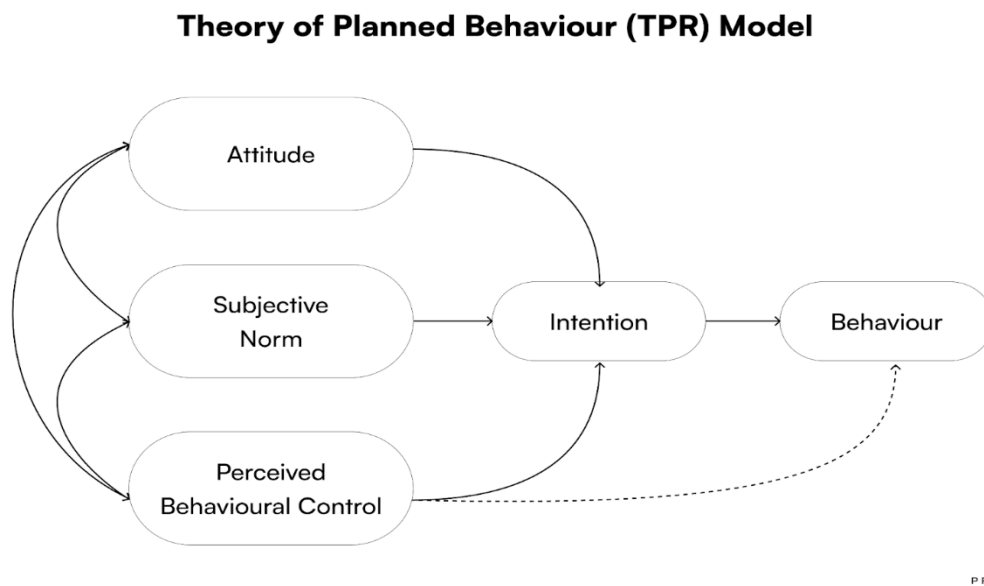


Figure 1: The Theory of Planned Behaviour (TPB) adopted from Ajzen (1991).

According to the theory, attitude towards the behavior refers to an individual's positive or negative feelings about performing the target behavior (Hoppe et al., 2013). In other words, it is an overall evaluation of the consequences of the performance of the behavior as either positive or negative. In this regard, when the evaluation of the behavior outcome is desirable, the result is a positive attitude, whereas a negative attitude results when the evaluation is undesirable (Kufaine, 2024). Therefore, attitudes are determined by beliefs about outcomes and attributes of performing the behavior weighed by evaluating the attributes. A person who holds strong beliefs that positively value the outcome that results from performing the behavior will have a positive attitude towards the behavior. However, a person who holds strong beliefs that negatively value outcome results from the behavior will have a negative attitude (Canova and Manganelli, 2020). This therefore implies that a person's attitude towards a particular behavior reflects an evaluative reaction, favorable or unfavorable towards engaging in the behavior.

Subjective norm refers to whether the targeted behavior would be accepted by those important others for the individual to gain social approval or to avoid social rejection (Conner and Norman, 2015). In other words, it is the perception of the individual to perform or not to perform the alleged behavior in accordance with their peer pressure (Brouwer et al., 2009). Wang et al. (2018) argued that this perception can pressure and influence the individual to perform the alleged behavior. Perceived behavioral control, on the other hand, is the individual's control belief that focuses on the action and an accurate reflection of the actual control. It relates to an individual's perception of their ability to perform or avoid a behavior, which is often shaped by external constraints or facilitating conditions (Ajzen, 2005).

In line with the Theory of Planned Behavior, it can be argued that students' attitudes toward cheating are shaped by their beliefs about the consequences of academic

dishonesty, such as the likelihood of being caught, the severity of punishment, and the potential academic benefits of cheating. For example, when students perceive invigilation as weak, inconsistent, or ineffective, they may develop a more favorable attitude toward cheating, believing that the risks of detection are low and the potential rewards are high. Conversely, if invigilation is perceived as strict, vigilant, and fair, students are more likely to develop negative attitudes toward cheating, thereby reducing their intention to engage in academic misconduct.

The Theory of Planned Behavior also suggests that subjective norms play a critical role in shaping students' intentions to cheat. In this regard, it can be argued that students' perceptions of how their peers respond to invigilation and academic integrity measures affect their likelihood of engaging in cheating. For instance, if students believe that their peers commonly engage in academic dishonesty and that such behavior is tolerated or ignored by invigilators and institutional authorities, they may feel social pressure to conform to these practices. However, when invigilation is perceived as professional and consistently enforced, and where academic integrity is visibly valued by the institution and invigilators, students are more likely to comply and refrain from dishonest acts or internalize norms that discourage cheating.

Furthermore, the Theory of Planned Behavior suggests that perceived behavioral control is influenced by students' perceptions of the effectiveness of invigilation practices. In this regard, it can be argued that if students believe that invigilators are well-trained, mobile, impartial, and capable of detecting malpractice, they may feel that cheating is difficult or risky, thereby reducing their intention to engage in academic dishonesty. On the other hand, if students perceive weakness in invigilation practices such as inattentiveness, overcrowded examination rooms, or lack of supervision, they may feel that cheating is easier and more feasible.

Thus, the Theory of Planned Behavior in this study provided a framework for understanding how students' perceptions of invigilation shape their intentions and behaviors regarding academic dishonesty. The theory helped to explain why some students engage in examination misconduct based on their attitudes, perceived social norms, and perceived effectiveness of invigilation practices.

Objectives of the Study

1. To assess students' perception on effectiveness of invigilation practice in preventing academic dishonesty.
2. To analyze how adequate invigilation practices are in preventing academic dishonesty.
3. To examine students' experience with different invigilation methods during examinations.

Method

The study utilized an exploratory research design to unveil students' perspectives on invigilation and how it prevents academic dishonesty. Undergraduate students enrolled in full-time, part-time, distance, and blended learning from four selected public and private higher education institutions within Lusaka participated. The study comprised 295 participants selected using convenient sampling, as they were available during the study, willing to take part, and had written the examinations more than once, thereby

having information and experience on approaches employed by invigilators during examinations. Data was collected using a structured questionnaire comprising closed-ended Likert scale questions that were shared electronically using Google Forms with clear instructions for completion provided. The instruments used were pretested in order to ensure clarity and reliability, and content validity was established with expert review. Data collected were analyzed using the Statistical Package for Social Sciences (SPSS) to provide descriptive statistics.

Results

Table 1. Demographic profile of participants

Demography	Items	Respondents	Percentage
Gender	Male	109	36.7
	Female	188	63.3
Age	18 - 20	42	14.1
	22 - 24	94	32.7
	26 - 28	35	11.8
	30 & above	123	41.4
Mode of study	Full-time	169	56.9
	Part-time	4	1.3
	Distance learning	109	36.7
	Blended learning	15	5.1
Year of study	First	44	14.8
	Second	46	15.5
	Third	191	64.3
	Fourth	10	3.4
	Fifth	2	0.7
	Sixth	0	0
	Seventh	4	1.4

The table above indicates the demographic characteristics of study participants. In terms of gender, the majority of participants were females, who accounted for 63.3%, while 36.7% accounted for males. In relation to age, 30 and above accounted for the majority (41.4%); this was seconded by 32.7%, accounting for those aged between 22 and 24. 14.1% and 11.8% were recorded for those aged between 18 to 20 and 26 to 28. Regarding the mode of study, full-time participants were the majority (56.9%), seconded by distance learning, which accounted for 36.7%. Blended and part-time learning accounted for 5.1% and 1.3%, respectively. In relation to the year of study, the majority of participants were in their third year and accounted for 64.3%, followed

by 15.5% representing those in their second year. The first- and fourth-year students accounted for 14.8% and 3.7%, while the seventh-year students accounted for 1.4%. However, the sixth year did not record any response.

Table 2. Perceived effectiveness of invigilation in reducing examination cheating

Statement	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
<i>To what extent do you agree that invigilation helps reduce cheating during examinations?</i>	32.6%	40.9%	16.4%	4.7%	5.4%

Table 2 shows the extent to which respondents agree to invigilation being an effective method in reducing examination cheating. The majority of respondents expressed positive views, as findings indicate 40.3% agree and 32.6% strongly agree. A moderate ratio was recorded for respondents who indicated not sure (16.4%). Those who disagreed and strongly disagreed recorded 4.7% and 5.7%.

Table 3. Adequacy of invigilation in maintaining examination integrity

Statement	Very Adequate	Adequate	Not Sure	Inadequate	Very Inadequate
<i>How adequate do you feel the current invigilation practices are in maintaining exam integrity?</i>	23.1%	40.3%	20.7%	10.2%	5.8%

Table 3 addresses responses on the adequacy of invigilation in maintaining examination integrity. The majority of respondents (40.3%) indicated invigilation as adequate in maintaining examination integrity, followed by 23.1% who indicated 'very adequate.' A moderate proportion (20.7%) was recorded for respondents who indicated not sure. Respondents who indicated inadequate and very inadequate accounted for 10.2% and 5.8%.

Table 4. Most effective type of invigilation in reducing academic dishonesty

Statement	Physical	Automated/Technology-Assisted Invigilation	Online
<i>Which type of invigilation do you think is most effective in reducing academic dishonesty?</i>	58.4%	36.8%	4.7%

Table 4 provides responses on the most effective type of invigilation in reducing academic dishonesty. The majority of respondents (58.4%) indicated physical invigilation as the most effective. This was seconded by 36.8% recorded for automated/technology-assisted invigilation, while online accounted for 4.7%, which is the smallest fraction.

Table 5. Satisfaction with the Adequacy of Invigilators During Examinations

Statement	Very Satisfied	Satisfied	Not Sure	Dissatisfied	Very Dissatisfied
<i>How satisfied are you with the number of invigilators present during examinations?</i>	32.6%	40.9%	16.4%	4.7%	5.4%

Table 5 shows the level of satisfaction with the adequacy of invigilators during examinations. The majority of respondents expressed positive views, as results showed 40.9% and 32.6% accounting for those who indicated satisfied and very satisfied. A moderate number were recorded from those who indicated 'not sure,' accounting for 16.4%. 5.4% and 4.7% were recorded for respondents who indicated very dissatisfied and dissatisfied.

Table 6. Perceived adherence of invigilators to examination procedures in preventing malpractice

Statement	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
<i>To what extent do you agree that invigilators follow proper procedures to prevent exam malpractice?</i>	21.5%	41.3%	21.5%	6.4%	9.4%

Table 6 presents the perceived adherence of invigilators to examination procedures in preventing malpractice. The majority of respondents expressed positive views, as results showed 41.3% agreeing and 21.5% strongly agreeing. A moderate proportion was recorded for respondents who indicated not sure (21.5%). Respondents who strongly disagreed and disagreed accounted for 9.4% and 6.4%.

Table 7. Descriptive statistical summary of responses to statements

Statement	Mean	SD
Invigilation helps reduce cheating during examinations	3.90	1.13
Adequacy of current invigilation practices in ensuring exam integrity	3.64	1.14
Perceived effectiveness of type of invigilation in reducing academic dishonesty	2.54	0.58
Satisfaction with the number of invigilators during examinations	3.90	1.13
Invigilators follow proper procedures to prevent exam malpractice	3.59	1.24

Students indicated a positive observation of invigilation being a restrictive measure to cheating. On the statement on invigilation helping reduce cheating during examination, a high mean score ($M = 3.90$, $SD = 1.13$) showed that many respondents agreed or strongly agreed that invigilation plays a critical role in minimizing examination malpractice.

Also, respondents further showed a relatively high level of satisfaction with the number of invigilators available during the examinations ($M = 3.90$, $SD = 1.13$), providing the view that students perceive staffing of examinations as adequate in supporting effective communication.

Regarding the adequacy of the current invigilation practices in maintaining exam integrity, descriptive data recorded a moderate to high agreement ($M = 3.64$, $SD = 1.14$), showing that while students view current practices to be sufficient, more can be done to make it effective.

A moderate positive response ($M = 3.59$, $SD = 1.24$) on whether invigilators follow proper procedures in an attempt to prevent malpractice. The relatively higher standard deviation indicates variability in students' experience, thereby reflecting inconsistencies in how invigilation procedures are applied across different examination settings.

On the other hand, a lower mean score ($M = 2.54$, $SD = 0.58$) is recorded on the perceived effectiveness of the type of invigilation used in reducing academic dishonesty. This shows that students were less convinced about effectiveness concerning the mode or style of invigilation employed in deterring dishonest behaviors, further suggesting a general view of respondents on the issue.

Discussion

Perceived effectiveness of invigilation in reducing examination cheating

The study established that the majority of the respondents expressed positive views, as findings indicate 40.3%. The findings may be attributed to the fact that while the problem persists, many have experienced the effective interventions of some of the measures put in place. In a similar study done by Kumar and Nair (2020), it was stressed that vigilant invigilators ensure that examination malpractice is far from the examination center. They also ensure that any attempts at malpractice are promptly identified and addressed. However, if an invigilator is lazy or irresponsible, they might aid or allow examination malpractice to occur right under their nose (Williams and Wong, 2009).

Similarly, Pritchard (2018) and O'Sullivan (2019) in their studies reported that students believed that cheating was less prevalent in examination rooms where invigilators were vigilant, mobile, and actively engaged in monitoring candidates. Similarly, Starovoytova and Arimi (2017) noted that students perceived the likelihood of engaging in dishonest behavior to decrease when invigilators maintained constant visibility and enforced rules consistently. These findings suggest that the students' fear of being caught is a powerful influence on their conduct. In the same vein, Cluskey et al. (2011) reported that students believed that strict invigilation reduced temptation to cheat, even among those who might otherwise consider dishonest practices. Students in their study expressed that knowing an invigilator was attentive made cheating too risky, thereby encouraging compliance with examination regulations.

Adequacy of invigilation in maintaining examination integrity

The study revealed that the majority of respondents (40.3%) indicated invigilation as adequate in maintaining examination integrity. Findings can be attributed to the visible presence of invigilators during examinations, thereby acting as a deterrent to misconduct among students. Learners may not engage in unaccepted behavior if they know that mechanisms to monitor their actions are in place. The findings of the study were also similar to those unveiled by Newton (2016), who contended that students often equate strong invigilation with fairness, arguing that supervision protects honest students from being disadvantaged by dishonest peers. In this regard, invigilators, as personnel responsible for supervising examinations, act as frontline defenders of academic integrity, whose vigilance and familiarity with institutional policies help reduce the incidence of examination irregularities, including cheating. Vincent-Robinson (2016) proposed that invigilators should be given a small allowance to

motivate them and ensure that they are vigilant during the exam period. Therefore, the presence, alertness, and conduct of invigilators play a decisive role in shaping students' behavior in the examination room.

Most effective type of invigilation in reducing academic dishonesty

The study discovered that most of the respondents (58.4%) indicated physical invigilation as the most effective. The findings reflect a lower rate at which technology is being adopted to aid academic dishonesty. While items such as scanners have been adopted to help detect unauthorized materials such as phones, many students still find other means of cheating. Similarly, Stuber-McEwen et al. (2009), in their study, found that students generally viewed in-person invigilation as a legitimate means of maintaining academic standards. However, students also reported that conventional examination settings can be anxiety-inducing and stressful. Balash et al. (2021) note that large, silent exam halls, the constant movement of invigilators, and the pressure of time limits can create an intimidating atmosphere that negatively affects some students' concentration and performance. For students who experience test anxiety or have learning difficulties, such conditions may make examinations particularly distressing, even when no academic misconduct is intended (Adie and Oko, 2016). According to Dawson (2020), the physical presence of invigilators is often viewed as a strong deterrent to cheating because students are aware that their actions can be directly observed.

The findings aligned with observations made by Duncan and Joyner (2022), who found that students perceived online invigilated exams as less stressful and more accommodating to their individual needs. The findings also revealed that students reported that the ability to control their environment, such as seating and noise levels, enabled them to concentrate better than in conventional exam halls. This suggests that different types of invigilation can have differential effects on students depending on their personal circumstances. Further, as observed by Harmon et al. (2010) and Ogunjobi et al. (2021) when compared with traditional face-to-face settings, the technologies associated with monitoring of the online examination can provide better exam security and integrity. In their study, Karim et al. (2014) also found that the use of remote online proctoring decreases instances of student cheating. Similarly, Kolski and Weible (2019) stressed that the importance of academic integrity could be reinforced when students are aware of the instructors reviewing their recorded exam sessions.

Satisfaction with the Adequacy of Invigilators during Examinations

The study showed the majority of the respondents expressed positive views, as results showed 40.9% and 32.6% accounted for those who indicated "satisfied" and "very satisfied." The satisfaction from the findings may be due to two reasons. The first is that students perceive available invigilators to be enough in manning examinations. The second, however, may be necessitated by the need to halt further efforts that may suggest strict methods of invigilation. Similarly, Oguiche et al. (2023) state that examinations serve not only as a measure of individual academic performance but also as a basis for certification, progression, and professional competence. Consequently, the effectiveness of invigilation practices is critical in ensuring that assessment

outcomes genuinely reflect students' knowledge and abilities rather than their capacity to exploit weaknesses in supervision (Danbaba and Bako, 2021). McCabe et al. (2006) argued that when invigilation is adequately structured and effectively implemented, it minimizes opportunities for academic malpractice, promotes equity among candidates, and reinforces confidence in the legitimacy of academic credentials. Conversely, inadequate or poorly conducted invigilation undermines the purpose of examinations by creating opportunities for students to engage in cheating, collusion, impersonation, and other forms of academic malpractice (Forkuor et al., 2019; Dadzie and Annan-Brew, 2023).

Perceived adherence of invigilators to examination procedures in preventing malpractice

The study established that respondents expressed positive views, as results showed 41.3% agreeing and 21.5% strongly agreeing. Results reflect the ongoing commitment by institutions to ensure that all invigilators adhere to procedures aimed at minimizing academic dishonesty. Cluskey et al. (2011) found that students tend to view strong and consistent invigilation as an important deterrent to cheating, reporting that when invigilators are attentive and enforce procedures properly, students believe the likelihood of engaging in dishonest practices decreases. This supports our finding that a substantial proportion of respondents agreed or strongly agreed that invigilators adhere to examination procedures to prevent malpractice.

Recommendation

While physical invigilation is preferred as observed from the findings, higher learning institutions may need to adopt hybrid methods of invigilation—use of both physical and electronic means. Using both physical and electronic examination invigilation aids such as cameras and metal detectors may help to minimize academic dishonesty. Furthermore, the suggested method may also help to reduce anxiety among students while improving vigilance among invigilators.

Author contributions

Dalitso Mvula: Conceptualization, manuscript draft, final manuscript review. Kadeyo Kuyela: survey design. Matildah Muchinga: Administrative support, ethical clearance. Emmanuel Chirwa: Manuscript editing. Sumbwanyambe Likando, Mlongoti Zulu, Elisha Kafumukache and Richard Sililo: Literature Review. Elijah Muntanga: Data collection. Christopher Haamasama and Francis Nkunika: Data cleaning and interpretation. Paul Mbewe: Proof reading the final manuscript.

Conflict of Interest

The authors of this study declare that there are no personal or professional conflict of interest.

Data availability

The data used in this study is not available publicly due to confidentiality and ethical restrictions but not be availed by the corresponding author upon reasonable request.

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