



MITIGATING EXAMINATION MALPRACTICE THROUGH TECHNOLOGY: ASSESSING WAEC NIGERIA'S MIGRATION FROM PAPER-BASED TO COMPUTER- BASED EXAMINATION



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INTRODUCTION:

Examinations have served as a tool for quality assessment, ensuring that learners acquire the knowledge they are expected to learn.

Examinations serve as a necessary instrument designed to verify a student's achievement as well as the effectiveness of the teaching and learning process.

In recent times, the credibility of examination results has been seriously eroded by the prevalence of examination malpractice



INTRODUCTION CONT.:

Examination malpractice has become a serious threat to the quality of education in Africa and all over the world.

Common forms of malpractice are

- **impersonation,**
- **smuggling of unauthorized materials**
- **script alteration, and**
- **collusion**

Examination malpractice is facilitated by both internal and external agents within the educational system



INTRODUCTION CONT.:



- In a bid to improve the efficiency and security of her examinations, WAEC Nigeria adopted computer-based examination over ten years ago in her aptitude testing department replacing traditional methods.
- WAEC has been hesitant to adopt computer-based testing for achievement tests due to challenges like power supply, infrastructure, and large candidature.

INTRODUCTION

CONT.:

In February 2024, WAEC implemented computer-based exams for private candidates, aiming to enhance test security and alleviate logistical challenges.

The examination uses a blended or hybrid approach (multiple-choice) questions are onscreen, while the essay questions are displayed on the screen, and students write their answers in provided answer booklets.

This paper sought to examine WAEC Nigeria's transition from paper-based to computer-based testing and its effect examination malpractice.



STATEMENT OF THE PROBLEM

- **Persistent malpractice undermines assessment standards.**
- **PBT is vulnerable to leakage, impersonation, and collusion.**
- **Legal interventions have not fully solved the problem.**
- **Examination Malpractice fosters a culture of dishonesty that extends into professional life**



RESEARCH QUESTIONS

The following research questions were asked:

1

What are the common forms of examination malpractice in WAEC's paper-based testing system?

2

What technological features were adopted by WAEC Nigeria in the use of the computer-based examination (CBE) mode?

3

What effect has the introduction of computer-based testing on examination malpractice?

METHODOLOGY:

Design: Descriptive comparative research.

Population: Candidates who registered and sat for the WASSCE PC1 between 2020 to 2025

Sample: candidates involved in examination malpractice during the WASSCE PC1 (2020–2025).

Tools: Descriptive stats, t-test, trend analysis.

Data Source: WAEC archival records.



RESULTS:

RESEARCH QUESTION 1: What are the common forms of examination malpractice in WAEC's paper-based testing system?

- ❖ Collusion
- ❖ Digital Cheating
- ❖ Unauthorized materials into the examination hall
- ❖ students copying each other in the examination hall
- ❖ Copying from crib, textbooks or notes.
- ❖ Impersonation
- ❖ Insult/Assault on examination officials
- ❖ Contravention of Instructions to Candidates
- ❖ Multiple Registration
- ❖ Substitution

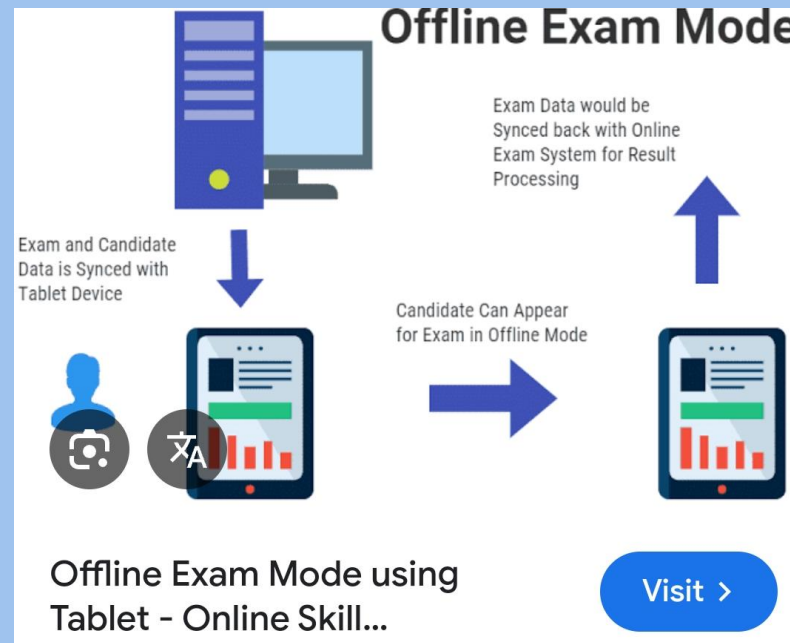


RESULTS CONT.:

RESEARCH QUESTION 2: What technological features are adopted by WAEC Nigeria in the use of the computer-based examination (CBE)?



1. Secured in-house developed software solution



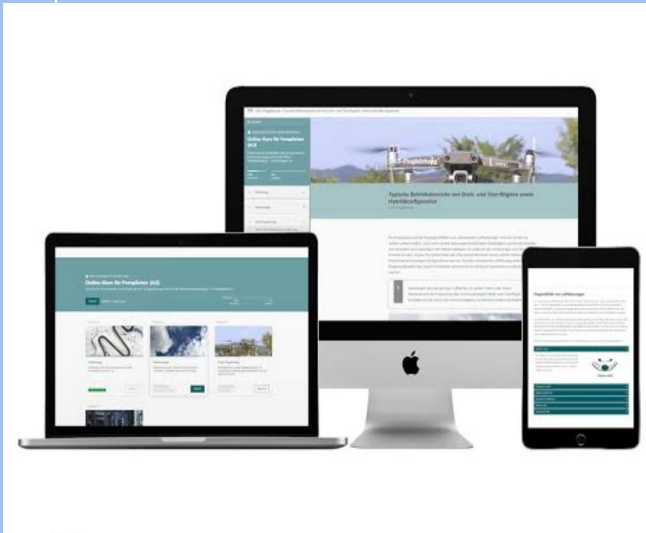
2. Offline Exam Functionality



3. Biometric Identity Verification

RESULTS CONT.:

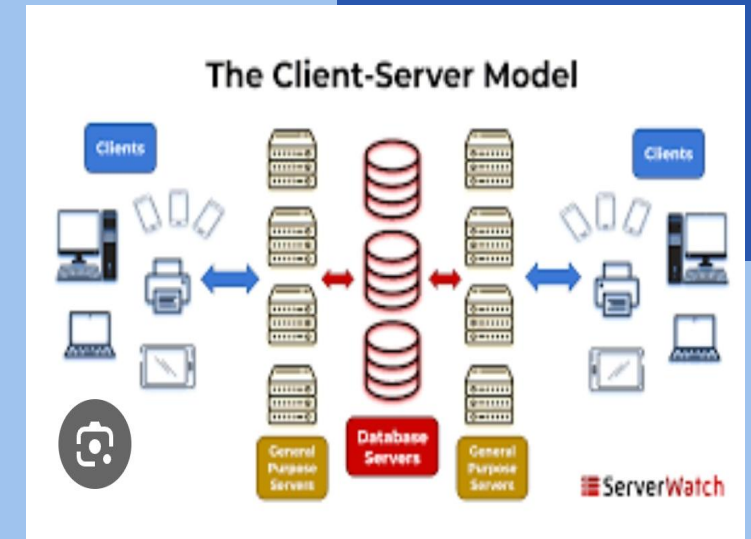
RESEARCH QUESTION 2: What technological features are adopted by WAEC Nigeria in the use of the computer-based examination (CBE)?



4. Real-Time Exam Supervision



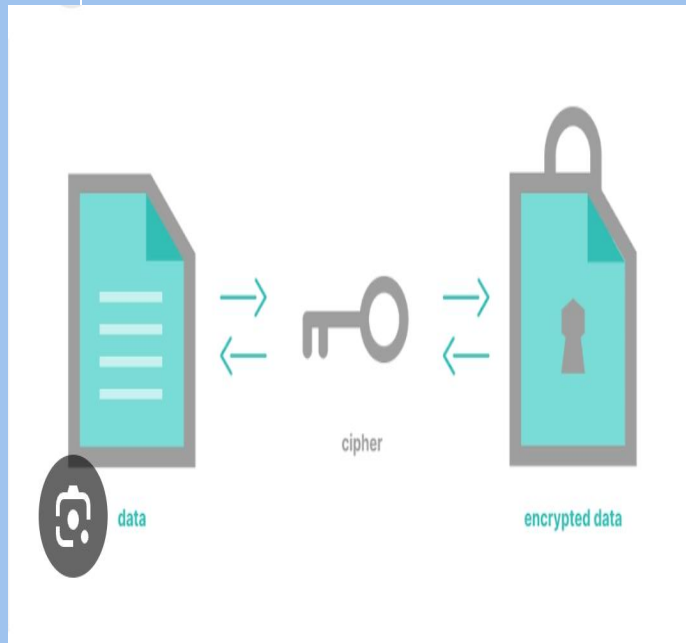
5. SecuredItem Bank



6. Robust server-client infrastructure

RESULTS CONT.:

RESEARCH QUESTION 2: What technological features are adopted by WAEC Nigeria in the use of the computer-based examination (CBE)?



7. Encrypted Data Handling



8. Comprehensive Security and Access Controls



9. Juggling of test items

RESULTS CONT. :

RESEARCH QUESTION 3: To what extent has the introduction of computer-based testing helped in mitigating examination malpractice?

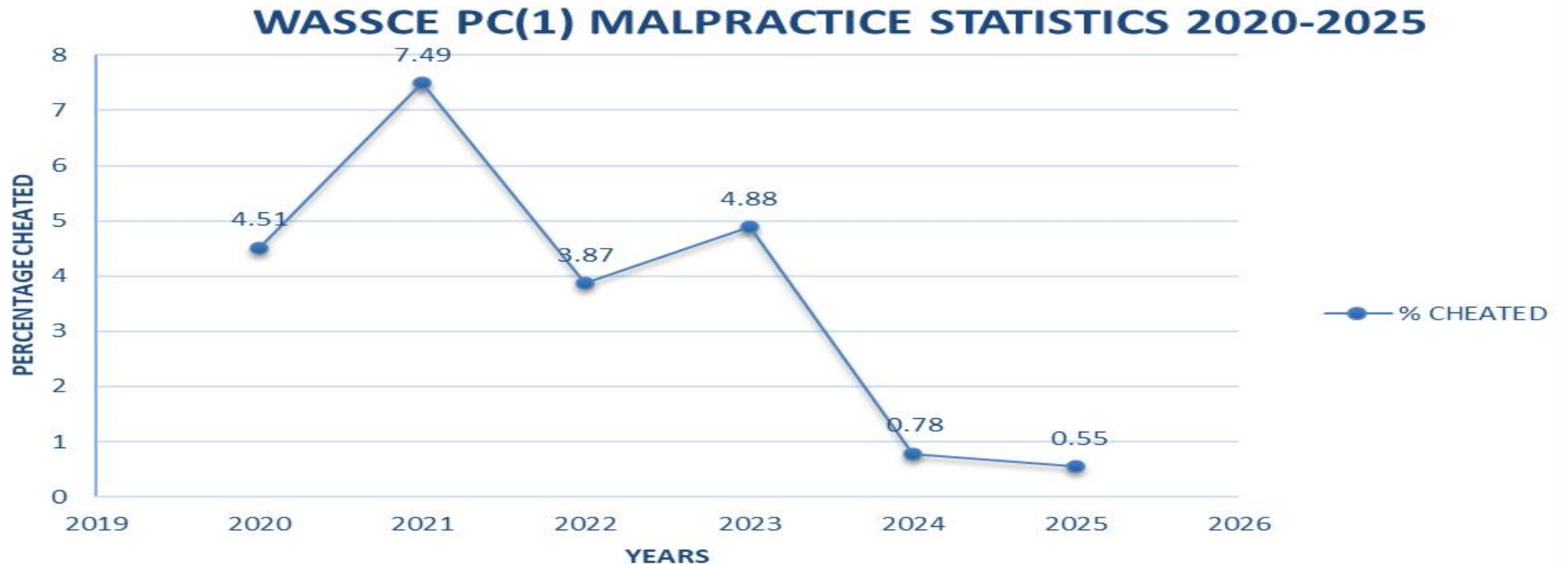
WASSCE PC(1) MALPRACTICE STATISTICS 2020–2025

Years	Total Candidates Entry	Total Candidates that Sat for the Exam.	Number of Malpractice Cases	% of Candidates that CHEATED
2020	12,395	12,073	545	4.51
2021	7,690	7,303	547	7.49
2022	7,334	7,167	277	3.87
2023	8,738	8,357	408	4.88
2024	8,362	8,140	64	0.78
2025	9,512	9,439	52	0.55

S/ N	TYPE OF MALPRACTICE	CANDIDATES INVOLVED AS % OF TOTAL SAT PER YEAR					
		2020	2021	2022	2023	2024	2025
1.	Bringing foreign materials into the examination hall	0.12	0.38	0.15	0.31	0.05	0.04
2.	Caught with mobile phones	0.85	2.82	1.80	2.27	0.47	0.37
3.	Irregular activities inside or outside the examination hall	0.17	1.10	0.03	0.18	0.00	0.01
4.	Collusion	2.89	3.86	1.81	1.20	0.17	0.11
5.	Impersonation	0.52	0.36	0.94	1.03	0.07	0.06
6.	Leakage	0.00	0.00	0.00	0.00	0.00	0.00
7.	Mass cheating	0.00	0.00	0.00	0.00	0.00	0.00
8.	Insult/Assault on supervisors, invigilators and other examination officials	0.12	0.00	0.00	0.00	0.00	0.02
9.	Contravention of Instructions to Candidates	0.00	0.00	0.04	0.0	0.00	0.00
10.	Multiple Registration	0.00	0.00	0.03	0.02	0.00	0.00

RESULTS CONT.:

RESEARCH QUESTION 3: To what extent has the introduction of computer-based testing helped in mitigating examination malpractice?



RESULTS CONT.:

DESCRIPTIVE STATISTICS COMPARING PPT AND CBT MODE OF TESTING ON EXAMINATION MALPRACTICE RATES

Comparison between PPT and CBT and how they influence examination malpractice.

Group Statistics

		N	Mean	Std. Deviation	Std. Error Mean
MALPRACTICE	MODE				
	PPT	4	5.1875	1.59069	.79534
	CBT	2	.6650	.16263	.11500

- The mean malpractice score is significantly higher for PPT (5.1875) compared to CBT (0.6650). This suggests a higher incidence or severity of malpractice in paper-based exams within this dataset
- The standard deviation for PPT (1.59069) is much larger than for CBT (0.16263). This indicates greater variability in the level or type of malpractice in paper-based tests.

RESULTS CONT.:

T-TEST OF INDEPENDENCE COMPARING PPT AND CBT MODE OF TESTING ON EXAMINATION MALPRACTICE RATES

Independent Samples Test									
		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower Upper
MALPRACTICE	Equal variances assumed	2.502	.189	3.784	4	.019	4.52250	1.19509	1.20439 7.84061
	Equal variances not assumed			5.628	3.123	.010	4.52250	.80362	2.02094 7.02406

The t-test shows a statistically significant difference in malpractice between PPT and CBT (Sig. (2-tailed) = 0.019 when equal variances are assumed, and 0.010 when equal variances are not assumed). In both cases, the p-value is less than 0.05, confirming the significance.

DISCUSSIONS :

1. **Significant Difference in Malpractice: Results revealed a statistically significant difference.**
2. **Diffence in types of exam malpractice between paper-based (PPT) and computer-based (CBT) exams.**
3. **Higher Malpractice in PPT: evidence suggests that exam malpractice is significantly higher in paper-based tests compared to computer-based tests. CBT greatly reduces malpractice.**
4. **reduction in logistic challenges and less people with access to question papers.**



DISCUSSIONS :

- 5. Technology strengthens exam integrity.**
- 6. Infrastructural gaps remain a challenge.**

This result is in line with the study of Adebayo & Salihu 2022, Mensah & Boateng, 2021 and Nwoke & Ihechukwu, 2023 whose research demonstrated that CBT implementation is highly effective in reducing malpractice through advanced authentication, encryption technologies, randomized question banks and biometric verification, automated timekeeping and real-time monitoring.



CONCLUSION :

The study concluded that with enhanced security measures such as biometric identification, randomized questions, and digital monitoring etc., the CBT platform has significantly reduced common malpractice avenues such as impersonation, collusion, and question leakage.

RECOMMENDATIONS:

In light of the conclusion drawn, the study proposes the following recommendations;

1. **Infrastructural Expansion:** Collaboration with government and private sector partners, should prioritize the establishment of computer-based testing centers in rural and remote communities.
2. Reliable power supply, internet connectivity, and technical support systems.
3. **Legislative and Policy Enforcement:** Existing examination malpractice laws should be reviewed and strengthened.
4. Stricter penalties must be enforced for offenders, including those who attempt to compromise CBT systems.

RECOMMENDATIONS:

5. Educational authorities must also work with law enforcement to investigate and prosecute cases of malpractice swiftly.
6. Continued use of Hybrid Models: gradual adaptation while maintaining the core integrity of the exam process.
7. Public Sensitization Campaigns: Public awareness campaigns should be intensified to educate students, parents, teachers, and the general public about the dangers of examination malpractice and the benefits of CBT.
8. Partnerships and Research: Partner with universities, research institutions, and ICT firms to conduct studies on the long-term impact of CBT on exam integrity and student outcomes.

THANK
YOU

