

Closed-Circuit Television Surveillance: An Antidote To Examination Malpractice in High Institutions In Nigeria

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ABSTRACT: Most examination malpractices in Nigeria occur while the examination is in progress, in the form of bringing in unauthorized materials, writing on currency notes and identity cards, spying of other candidates in examination hall, substitution of answer sheets and impersonation. Effective invigilation can nip these examination malpractices in the bud and that can be done using closed-circuit television (CCTV) surveillance. CCTV surveillance has the advantage of providing: (1) video surveillance of examinations (2) deterrent effect on potential offenders (3) evidence of occurrence or non-occurrence of malpractice. CCTV surveillance, therefore, has the capacity to perfect the examination invigilation process and curb the propensity of candidates to indulge in such examination malpractices. This paper, therefore, proposes the introduction and deployment of CCTV surveillance in examination invigilation as an antidote to examination malpractices in Nigeria.

Keywords: closed-circuit television, examination, invigilation, malpractice, surveillance

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I. INTRODUCTION

The World Bank [1] explains that the single most important key to development and poverty alleviation is education. Also Oseni, Abumere and Ehimi [2] stressed that education strengthens citizenship values, fosters sustainable development; it is a powerful tool in eradicating poverty, reduces unemployment, and improves the quality of life of the people. It is therefore essential for any nation that is interested in development to improve on the academic performance of her citizens that could be verified through one form of examination or the other. Evaluation, test, assessment, or examination is a term synonymously used as a measure of the level of knowledge acquisition by the trainees at the end of their learning period [3]. Teaching and learning become more effective when the students are subjected to an examination process to determine the extent to which the students have assimilated the content of the instruction given and the teacher can also assess himself from the performance of the students [4]. It is unarguable, therefore, that evaluation or examination is a vital element of education, which, if corrupted, will undermine the education process and hence the overall development of any nation. In contemporary Nigeria, corruption of examination process comes in no other way than through examination malpractice. Therefore, in order to restore sanity in the educational system in Nigeria, sanity must be entrenched in the examination process. In order to achieve this, examination conduct must be effectively invigilated since most of the examination malpractices occur while the examination is ongoing. This paper, therefore, believes that finding an effective means of exam invigilation will go a long way in stemming the tide of malpractice in the conduct of examinations in Nigeria.

II. EXAMINATION MALPRACTICE IN NIGERIA

Malpractice is defined as any deliberate act of wrong doing, contrary to the rules of examinations designed to give a candidate an unfair advantage, or able frequently, to place a candidate at a disadvantage [5]. Examination in Nigeria, especially in high institutions, is characterized by different forms of examination malpractices such as bringing in unauthorized materials, writing on currency notes and identity cards, spying of other candidates in examination hall, substitution of answer sheets and change of examination scores or grades [3]. Others include: impersonation, leakage of questions to students before the examination, connivance with supervisors and school authorities to cheat, body writing or tattoo in which students especially females write on hidden parts of their

bodies [6]. Although examination malpractice attracts ugly penalties such as rustication, it nevertheless fails to increase in strength and sophistication. To support this assertion, data made available by the Examination Malpractice Panel (EMP) (*set up in Akanu Ibiam Federal Polytechnic, Unwana, Ebonyi State, Nigeria, to try and prosecute examination malpractice related offences*), showed that in 2013/2014 academic session, 25 cases of examination malpractice related offenses were recorded. In 2014/2015, the number of cases jumped to 96 (i.e. 284% increase), and finally in 2015/2016, 132 cases were recorded (i.e. 428% increase from 2014). **2.1 Side effects of examination malpractice**

Giving the high rate of examination malpractice in Nigeria, many observe with dismay, that examination is no longer a true test of one's ability. The resultant negative effect is that most of the students are no longer serious with their studies since they could still 'succeed' through indulging in examination malpractice which to them is a short cut to success. Because of examination malpractice most students in Nigeria no longer believe in hard work [7]. Examination malpractice has serious implications for the educational system, students, teachers, parents and the school as a whole. Nigeria has been graded with reliability of half-baked graduates, low productivity and poor job performance, certificate racketeering and qualification inflation [8]. The credibility of Nigerian certificates becomes questionable internationally. There is, therefore, no argument to the point that examination malpractice occurring at all levels of Nigerian educational system constitutes a serious threat, a menace to the entire educational system as well as to the socio-economic development of the nation

2.2 Fight against examination malpractice

Many efforts have been put forward by different governments, school authorities and individuals to eradicate examination malpractice in Nigeria, but these in most instances, have proved abortive [7]. This is majorly because the means of perpetrating examination malpractice get more and more sophisticated by the day [3]. It is in realization of this fact, that this paper proposes the introduction and use of CCTV surveillance in the invigilation of examinations in Nigeria. It is believed that this will not only ensure effective examination invigilation and thereby nip examination malpractice in the board, but also impel students to work hard as they discover that they cannot successfully indulge in malpractice to pass their exams. Curran, Middleton, and Doherty lent their support to this measure by stating that the mere presence of CCTV cameras alone is capable of scaring potential malpractice candidates, since they are well aware of being watched, with the possibilities of recorded clips being filed as evidence of malpractice endeavours [9]. .

2.3 Effect of effective invigilation on examination malpractice

Invigilation, as defined by Fayomi, Amodu, Ayo, Idowu, and Iyoha [10], is the act of keeping watch over candidates that are taking an examination in order to prevent them from indulging in examination misconducts such as cheating. According to them [10], an efficient and effective system of the invigilation process is essential in increasing the credibility of the entire educational assessment in Nigeria. In other words, the better the invigilation process of an exam, the less the temptation to get involved in examination malpractice and the smaller the chances of offenders not being caught.

3.3

III. CLOSED-CIRCUIT TELEVISION SURVEILLANCE Surveillance is the monitoring of behavior, activities, or other changing information for the purpose of influencing, managing, directing, or protecting people [11]. Leighton and Maximino [12] indicated that this can include observation from a distance by means of electronic equipment (such as CCTV) cameras). It is observed that surveillance is used by governments for intelligence gathering, prevention of crime, the protection of a process, person, group or object, or the investigation of crime, they further indicated.

Closed-circuit television (CCTV) is a surveillance technology. More specifically, it is a system in which a number of video cameras are connected in a closed circuit or loop, with the images produced being sent to a central television monitor or recorded [13]. The term closed circuit television was originally used to differentiate

between public television broadcasts and private camera-monitor networks. These days CCTV is used as a generic term for a variety of video surveillance technologies.

III.

Every CCTV system is comprised of three basic components. These include camera, monitor and recorder. Brief description of the components, as provided by Aeron Taylor [14], is given as follows.

3.1 Cameras

A camera is used to capture videos or still images which are then transmitted to a monitor for viewing and to a recorder for recording. Depending upon the usage and area which needs to be covered, a CCTV system may employ one or more cameras. In CCTV systems for examination invigilation, the number of cameras installed will depend on the size of the examination hall. There are numerous kinds of CCTV cameras and each of them are built and designed for various purposes. There are a few criteria which determine the type of CCTV camera needed. Placement of the camera is one of such criteria. A camera which has to be placed outside will need to have a robust casing to withstand the outdoor conditions. Depending upon the range of area to be covered, cameras of different resolutions will be needed. A high resolution camera will be necessary to cover big spaces whereas a low resolution camera might be enough for a small room. There are cameras which can be hidden from normal view if you do not want people to know that they are being watched. You can also install PTZ cameras which can be remotely controlled. A PTZ camera has functions for panning, tilting and even zooming to focus. A CCTV system for examination invigilation may employ a mix of these different types of cameras. It will all depend on the needs and desire of the school in question. Also cameras can be connected to a computer network.

There are two modes by which a camera may operate: wired and wireless. In a wired mode the camera transmits videos through a coaxial cable to the recording device whereas a wireless transmission occurs in wireless cameras. Wireless cameras reduce the installation cost and provide more flexibility but it is subjected to transmission failures.

3.2 Recorders

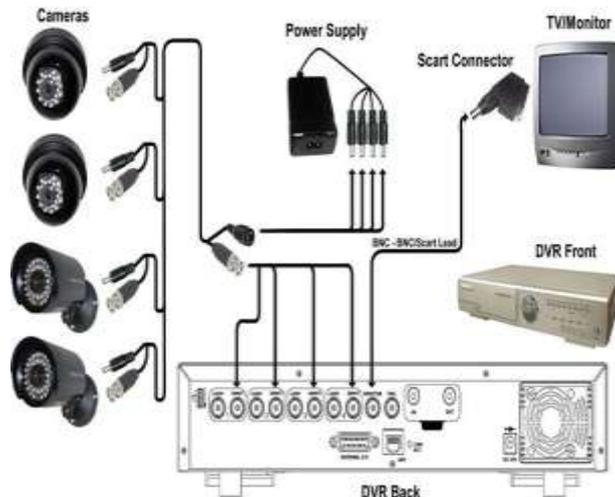
Recorders are a key component in any modern CCTV system. They are used to convert analog video to digital images which extends storage capacity, makes it easier to search through archived video, and allows surveillance operators to stream video over a network for remote viewing from multiple locations. Additional external hard drive may also be incorporated to the recorder which extends storage capacity even further.

Recorders are mainly of two types; stand alone DVRs and NVRs. DVR stands for Digital Video Recorder and NVR stands for Network Video Recorder. Stand alone DVRs record and store the images or videos sent by the CCTV cameras. A stand alone DVR is not connected to any network but just a single computer system. NVRs perform the same function as standalone DVRs but are connected not to just a single computer but a whole network. The images or videos stored by NVRs can be viewed by anyone in the network. With NVRs it is easier to authorize who can view the videos or images over internet.

3.3 Monitors

Monitors are the screens which display the recorded images or videos to be viewed in real time or later on. There are various kinds of monitors available: LCD monitors, LED monitors and TFT monitors. To view the feedback from more than one point, more than one monitor may be needed to be setup. For the purposes of deterrence, it may be necessary to position a monitor inside the examination hall where it can be viewed by exam participants. By doing this, the participants will know that they are being watched and so avoid any malpractice or unruly behavior.

Figure 1 below shows the schematic diagram of a typical CCTV system.



(Copied from: acquitcurai.co/wiring/cctv-wiring-schema)

It is important to note that a CCTV system also requires an operator to watch the monitors or review the recordings. Because of this, a full description of CCTV should not ignore the human element that reviews video, acts on the information, and prepares footage evidence for court or examination malpractice panel. Finally, it is obvious that the basic components of CCTV system are typically cameras, a recording device and a monitor. The difference of CCTV systems lies, therefore, in the types of components used. Choosing from various types of cameras to installing the monitors and choosing which recorder to use is what constitutes different types of CCTV systems. It might be imperative to choose not one but many different types of cameras and installations in CCTV systems for examination invigilation. Choosing the right component and suitable installation is important as it will enable schools to monitor examination halls better.

IV. HOW CCTV BE USED TO CURB EXAMINATION MALPRACTICE

4.1 Surveillance

CCTV cameras, when installed in strategic positions in examination halls, can be used to monitor in real time the activities of both candidates and exam facilitators such as invigilators. Such unbiased machine monitoring or surveillance enhances proper invigilation of exams, ensures that participants in the examination conduct themselves properly in a transparent manner, and also beefs up confidence in the participants against molestation or wrong accusation of malpractice. It also gives the examiner confidence that his/her exam is free and fair and can be verified.

4.2 Deterrence

Although CCTV has many functions, the primary preventive utility of CCTV is to trigger a perceptual mechanism in a potential offender. It seeks to change offender's perception so the offender believes if he gets involved in examination malpractice, he will be caught [15]. In other words CCTV aims to increase the perceived risk of capture, a factor which, assuming the offender is behaving in a rational (or limited rational) manner, will de-motivate the potential offender [16]. However, the Center for Problem-Oriented Policing [15], maintained that for this crime prevention process to succeed, two elements must exist:

1. The offender must be aware of the cameras' presence.
2. The offender must believe the cameras present enough risk of capture to negate the rewards of the intended crime.

Considering the first element, it means that for a CCTV system to stem a perceived examination malpractice in an examination hall, the crime prevention mechanism requires that all candidates know they are being watched. This also means that the cameras must be conspicuously positioned in such a manner that every candidate will notice their presence and functionality. Their functionality can be proved beyond all reasonable doubt by also installing a monitor of the system at a conspicuous place in the examination hall where every participant can view that it is functioning. This is necessary because in 1999, Ditton, Short, Phillips, Norris, and Armstrong [17], discovered that in Glasgow, Scotland, 15 months after 32 cameras were installed in the city center, only 41 percent of those interviewed were aware of the cameras.

4.3 Evidence

The Digital Video Recorder (DVR) component of the CCTV system has the capability to record and store for future review the video or images captured by the cameras. Footage of a CCTV can, therefore, be used as evidence in the event of a malpractice.

V. CONCLUSION

Having noted the increasing high rate of examination malpractice in Nigeria and the destructive side effect it has on Nigeria as a nation, it is pertinent that an urgent and lasting solution be proffered. It is in the light of this that this paper strongly recommends the deployment and use of CCTV surveillance to aid in examination invigilation during which most of the examination malpractices occur. It is believed that with CCTV, incidences of examination malpractice during exam will be drastically reduced as it has the capacity to ensure that examinations are properly monitored and recorded, serve as deterrence to potential offenders, and provide footage evidence to prove that a malpractice occurred or not.

REFERENCES

- [1] World Bank, Education sector strategy, A publication of the World Bank Education Advisory Services. Washington D.C., 1999.
- [2] Oseni, D. I. Abumere, and C. O. Ehimi, Vocational education as an instrument for unemployment eradication in Nigeria, *Journal of Educational Policy and Entrepreneurial Research (JEPER)* www.iiste.org Vol.1, NO.2, October 2014, Pp 80-8.
- [3] C. O. Onyibe, J. O. Nwachi-Ikpor and A. A. Abdulhakim, Computer Based Testing Technique in Nigeria: Prospects and Challenges, *Journal of Information Engineering and Applications*, Vol.5, No.10, pp. 17-21, 2015.
- [4] F. Omemu, Causes of Examination Malpractice in Nigeria Schools, *British Journal of Education*, Vol.3, No.7, pp.34-41, 2015.
- [5] M. U. Tambawal, Examination Malpractices, Causes, Effects and Solutions, presented at The Stake Holders Forum on Raising Integrity in the Conduct of Examinations in the Nigerian Educational System, Abuja, Nigeria, February 7 2013.
- [6] O. O. Ogunlade and F. O. Olafare, (n.d). Lecturers' Perceptions of Computer- Based Test in Nigerian Universities. Retrieved from <http://www.aiou.edu.pk>
- [7] J. S. Petters, J. S. and M. O. Okon, Students' Perception of Causes and Effects of Examination Malpractice in the Nigerian Educational System: The Way Forward for Quality Education, *Procedia - Social and Behavioral Sciences*, 114 (2014) 125 – 129.
- [8] I. Nwaba and P. A. Nwaba, Correlates of Examination Cheating Behaviour among University Students, *IFE Psychologia*, 11(1), 71 – 79, 2005.
- [9] K. Curran, G. Middleton and C. Doherty, Cheating in Exams with Technology, *International Journal of Cyber ethics in Education*, 1 (2), 2011, pp. 57, 58, 59, 60.
- [10] O.O. Fayomi, L. Amodu, Charles K. Ayo, O. R. Idowu and Francis O. Iyoha, *Proceedings of ICERI2015 Conference 16th-18th November 2015, Seville, Spain, ISBN: 978-84-608-2657-6, p2849*
- [11] Lyon and David, Surveillance Studies: An Overview, Cambridge: Polity Press, 2007.
- [12] W. K. Leighton and M. Maximino (11 February 2014). "The effect of CCTV on public safety: Research roundup". *Journalists Resource*. Harvard Kennedy School's Shorenstein Center and the Carnegie-Knight Initiative. Retrieved 2017-11-06.
- [13] R. V. Clarke and P. A. Schultz, Researching a Problem. ISBN: 1-932582-48-7, 2005.
- [14] What components make up a cctv system – SlideShare, Retrieved from <https://www.slideshare.net/AaronTAYLOR05/> on 24 November 2017.
- [15] Center for Problem-Oriented Policing *Annual Report*,. Retrieved from http://www.popcenter.org/responses/video_surveillance/3 on 24 November, 2017.
- [16] R. V. Clarke and D. B. Cornish, Modelling Offenders' Decisions: A framework for Research and Policy, In N. Morris (ed.), *Crime and Justice: An Annual Review Research*, Vol. 6. Chicago: University of Chicago Press, 1985.
- [17] J. Ditton, E. Short, S. Phillips, C. Norris and G. Armstrong, The Effect of Closed Circuit Television on Recorded Crime Rates and Public Concern about Crime in Glasgow (Final Report), Edinburgh: The Scottish Office, 1999.