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The Ethics of ICT Assessment in Public Examinations: Reflections on the Zimbabwean Experience

Fortune Sibanda
Department of Philosophy and Religious Studies, Great Zimbabwe University, Masvingo, Zimbabwe
Email: sibanda35@gmail.com

Richard S. Maposa
Department of Philosophy and Religious Studies, Great Zimbabwe University, Masvingo, Zimbabwe
Email: maposars@gmail.com

Abstract

Today, the examination system is one of the key contemporary moral issues as technology continues to play a transforming role in societies in all over the world. The prospects for the utilisation of new technologies in the field of education continue to be part of human consciousness from a number of angles. One principal angle, with a strong bearing on the assessment and evaluation of the education system, is that of public examinations. Within the dynamics of modern formal education, it is universally acclaimed that examinations are vital in determining the credibility of the quality of education that any nation offers to its citizens. The utility of Information and Communication Technology (ICT) in educational assessment at national, regional and international levels require concerted efforts. Nevertheless, the study observes that the application of ICT in the assessment of examinations is experiencing some impediments in several developing countries in general and in Zimbabwe in particular. At the moment in Zimbabwe, computer-based assessment in public examinations is conspicuously elusive, given that the educational policy since independence in 1980 is miles apart from the reality in schools. The paper posits that ICT, if given adequate funding, can make immense contributions on Quality Assurance (QA) in the educational system in Zimbabwe. The study established that ICT can be utilised as an integral component to improve efficiency, effectiveness and excellence in learning, teaching and assessment. Yet, the authors are convinced that processes of assessment must be anchored in the ethics of human integrity and honesty whose moral essence is religiously informed. Though the use of ICT in educational assessment is still minimal, the study recommends that some synergies should be developed between the government and the corporate world as key stakeholders to reinvigorate the education delivery processes. Methodologically, the study utilised questionnaires administered to Education Officers and School Administrators, teachers drawn from seven sampled Secondary schools in Masvingo District.

Keywords: Assessment, Education, Ethics, Examinations, ICT

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Introduction

Today, the role of Information and Communication Technology (ICT) in the system of assessment in education is vital. ICT is exerting a powerful influence 'like a North Star' on almost every facet of life across the world in contemporary times (Kluver, 2000, p. 1; Sibanda & Maposa, 2010, p. 15). In fact, its potential in education was recognized from the earliest days of interactive computing and the use of computer-based learning materials. ICT is spreading rapidly in education not just in rich countries, but also increasingly in developing countries, such as those in Southern Africa. However, insufficient attention has been paid to the relationship between formal assessment and use of ICT (Harding & Craven, 2001). In the Zimbabwean context, whereas on the one hand, there is minimal use of ICT in schools, on the other hand, the main Examining Boards, namely, the Zimbabwe Examinations Council (ZIMSEC) and the University of Cambridge Local Examination Syndicate (UCLES) use only the simplest forms of ICT based assessment in the form of objective or multiple choice tests.

Accordingly, the education system can be the most effective sector to anticipate and possibly eliminate the negative impact of ICT. Therefore, being aware of the vitality of ICT in education, policy makers and school authorities need to be prudent in implementing some strategies to improve the use of ICT in enhancing the teaching and learning process in schools. Nevertheless, the paper posits that the processes of assessment must be anchored in the ethics of human integrity, fairness, confidentiality and honesty whose moral essence is religiously grounded since the religion itself is a moral virtue (Sheedy, 1961, p. 260). Yet, in the Zimbabwean context, the anomaly is that the teaching of Religious and Moral Education (RME), despite being the fountain of the moral virtues, is not at the centre of the school curriculum. This is a strong reason why the study will recommend the re-instatement of RME to the entire education system.

In addition, the paper confirms Girvetz (1968)'s insight that security of a person and property must be the "first concern of a well-ordered society". By the same token, the security of examinations is indispensable for the credibility of results. This is how the moral implications in the assessment of examinations cannot be underrated. In the Zimbabwean situation, the assessment of public examinations is done by two main Examining Boards in which one is local, namely ZIMSEC, and the other is external, namely, UCLES. In this paper, the experiences of secondary schools and ZIMSEC will be focused in order to establish the ethics and place of ICT in assessment.

Research Methodology

The study utilised the questionnaires and in-depth interviews to collect data from seven purposively sampled secondary schools in Masvingo district. The schools were equitably distributed along the urban and rural dichotomy. Those sampled were Paramount Academy, Mucheke High School, Victoria High School, Masvingo Christian College, Kyle College, Gokomere High School and Zimuto High. The last two schools are rural-based. A total of 80 questionnaires

were distributed and 55 (representing 68.8%) were filled by the respondents. The interviews were also conducted and the target group was made of teachers, school administrators and education officers.

Role of ICT in Education

ICT in schools is used in two main ways, vis-a-vis, general administration and pedagogical processes of teaching and learning in classrooms. However, there is a disappointingly slow evolution of ICT use, not only in the teaching and learning frameworks, but also in the assessment of students' performance in the Zimbabwean school system. Notably, the main roles of ICT in education are to provide the prospects and trends of integrating communication technology into the educational processes. One of the key areas in which ICT could be utilized effectively is in the assessment of examinations. This key area constitutes an unavoidable fact in modern education, especially with security of examinations in mind that attract the law of conscience (McHugh & Callan, 1958, p. 201). In fact, Saverinus Kaka (2008) identifies the four key roles of ICT in education, namely: ICT is in vogue; an online open source tool; acts as a social network for edutainment; and ICT is change-agent in education.

Overview of the Examination System in Zimbabwe

The Zimbabwean examination system was inherited from the colonial era. In the colonial period and in the first two decades following independence in 1980, the main Examining Boards were, among others, the University of Cambridge Local Examination Syndicate (UCLES), University of London and Associated Examining Board (AEB). Later in the mid-1990s, there was a localization of public examinations. Accordingly, the Zimbabwe School Examinations Council (ZIMSEC) was established as the new indigenous Examining Board to administer public examinations in both primary and secondary schools. The Board is responsible for the assessment of candidates' learning and performance, and for the awarding recognized certificates at different levels of the school education system in Zimbabwe. However, the policy on the administration of public examination is not exclusively the responsibility of ZIMSEC alone. In fact, whereas the majority of schools go for the government-subsidised ZIMSEC examinations, most elite schools still prefer the examinations administered by external Boards.

In the school-based examinations, three scenarios of assessment are obtaining, given that the educational standards are different. First, some schools administer tests termly. Second, there are schools which administer cluster-based tests. Third, other schools administer mid-year and end of year tests to measure the performance of students. Notably, in all these tests and public examinations, the learning, teaching and assessment of students, ICT is either not utilised at all or barely utilised. Clearly, in an information-society, in a globalised village today, the school examination system in Zimbabwe is trailing far behind. This is part of the reason why the paper is advocating curriculum change and innovation inclined towards an education system which is largely ICT-dependent.

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Findings and Discussion of the Study

The study findings are based on feedback from the questionnaires and in-depth interviews conducted with both male and female teachers and administrators of secondary schools in Masvingo District. There were 30 (54.5%) male respondents to the questionnaires whilst 25 (45.5%) of the respondents were females. Among these respondents, were teachers (45.5%), Heads of Departments (29.0%), senior teachers (23.6%), Deputy Heads, School Heads, and Education Officers (1.8%). Therefore, the majority of the respondents were classroom practitioners who possess the practical experience of what is obtaining in their schools in as far as the use of ICT in teaching, learning and assessment contexts.

Whereas, the majority of respondents to questionnaires, 35 (63.6%), indicated that they used computers as part and parcel of teaching and learning, the rest, either neutral or who disagreed, constituted 20 (36.2%) conceded that these computers were not utilised for assessment purposes. Yet, regarding the question on the role that ICT could play in testing, 53 (96.3%) respondents agreed that the ICT could enhance the quality of testing in schools. Only 2 (3.6%) respondents were neutral. Furthermore, it was observed that 54 (98.1%) respondents acclaimed that ICT is invaluable when used to process and store school-based examinations. Only 1 (1.8%) respondent was neutral. Similarly, 49 (89.0%) respondents agreed that ZIMSEC as the Examining Board would be more efficient in administering public examinations when using ICT fully, despite the fact that 4 (7.2%) were neutral and 2 (3.6%) disagreed. Another observation the study made was that 48 (87.2%) respondents generally agreed that ICT could be used to improve the assessment of students' work; though 6 (10.9%) were neutral, alongside, 1 (1.8%) who disagreed.

These findings are instructive in light of the implications they bear on ZIMSEC as a national Examining Board and schools as sites of struggle for the use of ICT in educational assessment in Zimbabwe. They have roles to play in promoting and supporting the use of ICT in education. Since rules and regulations governing the conduct of examinations come from ZIMSEC, it may call for the use of the internet. In addition, the internet could be used to cascade the time table of examinations and the posting of the results. As testified by a significant proportion of our respondents, it is high time that ZIMSEC adopts the international standards on e-registration. This necessarily implies that ZIMSEC must engage in an online interaction with schools, for instance, in the area of verifying details of examination registration fees and checking of curriculum disciplines offered by different schools. On a related note, schools have obligations to engage ICT on a programme of computerising their data bases to store records on enrolment, inventory of books, library computerisation, fees and results. Some informants suggested the need for e-examinations and e-marking where students write their examinations through the internet. The vision is that both ZIMSEC and schools might end up adopting e-assessment in Zimbabwe.

ZIMSEC must engage camera surveillance through ICT. This would minimize cheating in examination rooms and reduce the problems associated with the failure to effectively invigilate the examinations. Accordingly, some respondents suggested the use of remote-controlled

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invigilation terminals in schools which are linked with the main servers at ZIMSEC. This is crucial in managing an online invigilation of examinations. Invigilation should not be underrated in issues of assessment. In fact, efficient and effective systems of the invigilation process work to increase the credibility of the entire business of educational assessment, whether it is ZIMSEC-based or school-based. In one historic case study emanating from our field work, a teacher who invigilated A-level Mathematics examination took it upon himself to work out a Mathematics problem on the chalk board with a view to assist the candidates. It was not until the period of marking at ZIMSEC that examiners suspected cheating. A team of ZIMSEC investigators was sent on a fact-finding mission. The reconstruction of the story was hectic as it involved interrogating students, school authorities and invigilators. The ugly side of it all was that the innocent students had to have their Mathematics results nullified but the invigilator was simply cautioned by the Ministry of Education. This case is relevant for the study because it shows the vitality of e-invigilation in schools. Though it is admitted that the use of ICT is invaluable in teaching, learning and assessment, but the ethic of the Human Factor must be evoked responsibly. Notably, this is an area where researchers are fully convinced that processes of assessment demand objective professionalism anchored on the virtues of integrity, diligence, conscience, honesty and fairness whose moral essence is religiously informed (Churches in Manicaland, 2006, p. 131). In fact, the paper perceives that morality is steeped in religion as it acts as perfection of the soul of humanity. This accounts for the pervasiveness of religion in all human activities (Mbiti, 1969, p. 2; Kudadjie, 1976, p. 60). As such research on religion online is increasingly becoming an interdisciplinary endeavour encompassing fields of study like communication, theology and sociology of religion such that the Internet has provided various players with multiple opportunities (Campbell, 2006). Another study might investigate the use and forms of religion online as new ways of exploring the religious beliefs and experiences in contemporary times.

Conclusion and Recommendations

ICT plays an increasingly important role in educational assessment in both schools and ZIMSEC. In fact, the paper argued that the whole process commences with recognising the pivotal role of computer-based learning in schools which will necessarily lead to computer-based assessment. Therefore, computer-based learning and computer-based assessment are closely linked, given that the progress in the former depends on progress in the latter, and vice versa (Harding & Craven, 2001). The study raises the following recommendations:

- ZIMSEC should be particularly prepared to play its part in assisting and encouraging all stakeholders in the use of ICT in the examination assessment processes.
- There must be professional in-servicing to re-align teachers to the anticipated ICT-based examination system in Zimbabwe.
- Within the Zimbabwean curriculum system, RME must be made a compulsory subject to inculcate basic moral principles that shape the proper citizenship education.

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