Open Praxis, vol. 9 issue 3, July–September 2017, pp. 299–312 (ISSN 2304-070X)

OPEN PRAXIS
INTERNATIONAL COUNCIL FOR OPEN AND DISTANCE EDUCATION

Distance Education Examination Management in a Lowly Resourced North-Eastern Region of Zambia: A Phenomenological Approach

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Abstract

This paper focuses on the management of distance education examination in a lowly resourced North-Eastern region of Zambia. The study applies Hermeneutic Phenomenology approach to generate and make sense of the data. It is the lived experiences of 2 invigilators and 66 students purposively selected that the study draws its insights from. Meaning within the generated data is elicited using the Chaos theory. Emerging from this study is a multiplicity of ingredients needed to effectively manage distance education examinations in a chaotic environment. The need for visionary leadership with a shared understanding of institutional purpose, the need for motivated staff with creativity and innovation and the need for effective communication are all vital ingredients needed to manage examinations. In conclusion, we now know that amidst chaos lay opportunities for innovation and creativity in terms of new strategies for managing distance education. To this extent, chaos should be treasured and not censured.

Keywords: Examinations, chaos theory, Distance Education, University of Zambia

Introduction

The centre stage of this study is within the Institute of Distance Education (IDE) at the University of Zambia (UNZA) which has been in existence for the past fifty (50) years since 1966. The University is configured as a dual mode institution, meaning regular and distance education programmes running parallel to each other while sharing resources (Moore & Kearsley, 2012). It should be noted here that while the Institute is responsible for organization, administration and coordination of distance learning courses, all tuition is given by members of academic staff of the various Schools of study. Members of staff of the Schools offering courses by distance teaching prepare all study materials, assignments and examination papers in accordance with the SENATE approved course outlines (Siaciwena 2006).

Over the years, the student population has been rising steadily from about 299 students in 1967/68 to 466 in 1977/78, to 731 in 1987/88 to 3, 803 in 2010/11 academic years. Most recently, the enrolment figures exponentially expanded from about 6000 to 8000 in 2011 and 2014 academic years respectively as indicated in figure 1. This upswing in the number of distance learners has necessitated the university management to institute a number of reforms or innovations to improve the capacity of IDE so that it can stand the pressure of serving the increased number of distance education students. Some of these innovations include the establishing of provincial centres where students sit for their exams without necessarily travelling to main campus in Lusaka (University of Zambia, 2009).

Reception date: 26 October 2016 • Acceptance date: 10 August 2017
DOI: https://doi.org/10.5944/openpraxis.9.3.442

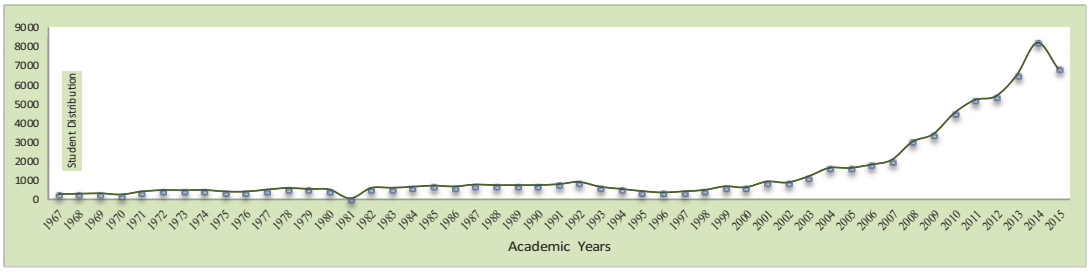

Figure 1: UNZA Distance Education Student Enrolment Trend Analysis, 1967 – 2015

As a way of decentralising learner support services as a means to improving the quality of learner support across the country, ten (10) regional centres namely: Chipata, Choma, Kabwe, Kitwe, Livingstone, Lusaka, Mansa, Mongu, Kasama and Solwezi were created. Arising from the presidential realignment of regional borders in 2011 was the creation of an eleventh region called 'Northeastern' (pseudonym) whose regional Headquarter is Chinsali. It should be noted here that before the formation of 'North-eastern' otherwise referred to as Muchinga Province, students in this region were on the Student Record System (SRS) tagged to the Northern region whose headquarter is Kasama. Thus, before the formation of the North-Eastern region, students in that region sat for their examinations in Northern Province. It is in the North-Eastern region that this study is located, as indicated in figure 2.

Figure 2: North-Eastern Region of Zambia within Southern Africa

As part of the Student Record Management System (SRS), all students are by default assigned by the system to sit for their examinations at the nearest regional centre. However, distance students are highly mobile making it challenging to predict with exactness the numbers of students per centre during preparations phase for examinations especially where students have opted not to update their physical home addresses. To mitigate the challenge of stray students in other centres, as a policy directive, examiners are mandated to enclose 5 exam question papers for centres where there are no documented students on the SRS while in centres with known student numbers, an additional 5 copies are enclosed.

Statement of the Problem

Whereas the decentralisation of examinations for distance education students in regional centres is a positive move, there still lies a challenge in non-updated student record system to inform the production of examination materials for UNZA. This situation has created challenges in the past in management of distance education examinations as numbers of students out-strip the available examination papers in most courses leading to undue pressure on staff and students. Considering that the North-Eastern Region has been in existence for five years after the Presidential decree of 2011, yet at the same time the University of Zambia's North-Eastern regional examination centre has been in operation for two (2) years, there has never been a formalised evaluation study instituted to understand the effectiveness of the centre. Given the challenge of non-updated Student Records and the lack of documented evidence on examination management in the newly created centre, it is not clear whether chaos does exist. If it does, how that chaos manifest itself and what strategies managers of examinations apply to manage chaotic situations.

Purpose of the study

The study aimed to interrogate UNZA's distance education examination management experiences of key staff and students and investigate the possible presence of chaos and strategies deployed to assure the quality of the qualifications offered by the University.

Research objectives

1. To investigate the possible presence of chaos in the management of distance education examinations at UNZA.
2. To establish the challenges associated with decentralised distance education examination management at UNZA.
3. To explore strategies applied to management of decentralised distance education examinations at UNZA.
4. To recommend measures from the lived experiences of stakeholders in the management of decentralised examinations at UNZA.

Theoretical Underpinnings of the Study

This study is informed by the theory of Chaos whose tenets are complexity, irregularity, uncertainty and anarchy (Kendirli, 2006). According to Gökmen (2009), the Chaos Theory is used to analyse nonlinear dynamic movements of aperiodic inconsistent systems. This theory analyses uncertain and constantly changing structures which are not foreseen within the system. According to another broad definition, Chaos states the presence of events whose process and results cannot be predictable (Ertürk 2012). In other words, uncertainty of reactions that may emerge against the effect created in the systems is defined as chaos (Altındağ & Kazdal 2014). It is from this premise that this paper applies the Chaos concept within educational settings, particularly dealing with the examination management of distance students, given the complexity, irregularity, nonlinearity, unpredictability, ambiguity and uncertainty attributes of distance education examination management possess as supported by Mehralizadeh and Hosseinzadeh's (2007) conceptual framework. According to those authors, every school day is uncertain until it occurs at the same time, it is difficult to see the connection between management, change, teaching and learning. According to Reigeluth (2004), such an environment is better explained using the Chaos theory and distance education is embedded within.

Literature Review

The literature review was delimited to relevant research articles available via Google Search Engine focusing on Management of Distance Education Examinations. This was meant to contribute to the on-going discourse on improved quality of management of decentralised distance education examinations in lowly resourced communities.

Presence of chaos in distance education

In developing countries, the task of administering examination in distance learning programmes is exceptional in several respects due to many study centres that are often times centrally controlled, and which serve as examination centres. Just as the National Open University of Nigeria (NOUN) has twenty eight (28) Study Centres, UNZA has eleven (11) study centres across their respective countries. Therefore, with many students and study centres to contend with, effective administration of examination, which is held simultaneously across the study centres, is usually a chaotic activity (Ibara, 2008).

In addition, Hunte (2013) observes that course development department of the University of the West Indies Open Campus (UWIOC) experienced complexity, uncertainty while developing its online programme. These challenges included insufficient infrastructure and human resources, assorted experience in online situations, and distribution across geographically isolated sites. In order to address these complexities, UWIOC devised project management strategies especially tailor-made to online setting. The findings support the relationship between project management strategies and instructional design principles, and its potential to create an online community of learners. Further, Dabaj (2011) argues that the effectiveness of distance education is dependent on how interactive the process is and how it overcomes the complexity, irregularity and uncertainty linked communication barriers among the individuals involved. Communication barriers exist in distance education because of such reasons as the physical distance between members, the complexity of dealing with new media, having time constraints and restrictions, background knowledge of distance education, incompetence in skills of using technology, and the interactivity level of the process. Put all together, effective distance education process becomes almost chaotic. The complexity associated with these barriers differs across institutions, varying programs and in different delivery systems applied (Dabaj, 2011).

Challenges in distance education

Tait (2000) observes that in the area of Open and Distance Learning (ODL), there is rapid change and at present considerable confusion about the relative status of students, making management of their examination processes problematic. This could be attributed to a number of inherent challenges which Galusha (2001) refers to as barriers. This author observes that the barriers of distance education fall into the following categories: (i) cost, (ii) motivators, (iii) feedback and teacher contact, (iv) learner support services, (v) alienation, (vi) lack of experience and training. Further, due to the lack of information about their roles in distance education, there is faculty and organizational barriers (Galusha, 2001).

In addition, Perreault et al. (2002) argue that other challenges associated with distance education border on communication. For instance, technical barriers during communication can be experienced by learners and facilitators as a result of not having appropriate experience on the use of technology. In addition, some students may have semantic barriers in their communication by misunderstanding announcements. Therefore, it is important to eradicate communication barriers for effective distance education to take place (Perreault et al., 2002).

Management of Examinations in ODL

Mafa and Gudhlanga (2012) contend that ODL is valued highly for bringing education to people's doorsteps, thus availing university education to populations who find it difficult and impossible to attend regular universities due to a number of restrictions (UNESCO, 2002). Nevertheless, where the institution offering ODL programmes is decentralised, as is the case at Zimbabwe Open University (ZOU), the distance between the National Centres and Regional Centres may be a source of problems in the management of examinations. In their considered view, challenges linked with management of examinations in ODL are threefold. These are: (i) Expenses in delivering examinations to regional centres, collecting answered scripts from regional centres, accommodation expense for markers based in the regions when they come for marking and processing of results, delivery of results to regional centres; (ii) Variations in regional centres in terms of suitability and accessibility of examinations venues, where regions depend on rented accommodation; and (iii) Heterogeneity of personnel tasked with the management of examination in the regional centres (Mafa & Gudhlanga, 2012).

In addition, Chaudhary and Dey (2013) observe that assessment is an essential part of the learning process. Over the years, there has been a paradigm shift in assessment in both face-to-face and ODL system. Content-based examination has shifted to performance-based examination. In this vein, assessment in the ODL system has adopted a new approach to provide better assessment judgments to its students and at the same time helping teachers and administrators. Therefore, individuals tasked with management of examinations are required to cope with the changing complex situations while administering ODL examinations (Chaudhary & Dey, 2013).

Good enough at the Zimbabwe Open University, challenges two and three highlighted by Mafa and Gudhlanga (2012) above are not an issue, since the regions make use of government complexes that are suitable and easily accessible. In addition, prior to each examination session, all staff tasked with examination management are oriented and reminded of the alertness, efficiency, diligence, required in the management of examinations so that quality is not watered down (Mafa & Gudhlanga, 2012).

Strategies deployed to manage examinations in ODL

During the examination preparation phase, one strategy deployed is in the setting of examination items where a team of experts in a particular study area and not an individual are mandated with that responsibility. This enables the production of high quality assessment items, which in turn produce better-informed students. The experts meet at a workshop where they set assessment items together. There is a lot of brainstorming and rigorous questioning until the team agrees that a question is suitable to be included in a particular exam. Items set are then deposited in examinations' item bank. Hence high quality questions are set in the end. Once the examinations are set, they are then sent to the chairpersons of the respective departments for final selection and printing. After printing, chairpersons and programme leaders at the National Centre proof read the papers. After correcting any noted errors, the examinations are printed, treated as highly confidential and security material and kept in sealed envelopes at the National Centre, until examination period. The academic registrar is solely responsible for the safe keeping of all examination material (Mafa & Gudhlanga, 2012).

When it comes to writing of examinations, they are decentralised in regions. For ZOU, just like at UNZA, examination timetables are dispatched to regional centres at the beginning of each semester. Programme leaders and Programme coordinators are encouraged to scrutinise the timetables to ensure that all their courses are well timetabled. If there are any anomalies, they are brought to the attention of regional and faculty administrators who in turn liaise with the academic registry for corrections to be effected. Early publication of timetables facilitates application for leave by students since most of ZOU students hold fulltime employment (Mafa & Gudhlanga, 2012).

Furthermore, the dispatch, transportation, storage and invigilation of examinations are critical processes in the management of examinations. For instance at ZOU, the examination papers are dispatched to the various regions by ZOU vehicles a day before their commencement. Once at Regional Centres the examinations are kept under lock and key to avoid leakages. Their custodians are Regional Directors and Regional Administrators. On examination days, particular examinations are taken to the examination venues where students write under close supervision by invigilators. In addition, invigilation is the responsibility of fulltime academic staff members with the support of part-time invigilators. At the end of each examination session, scripts are cross-checked against examination registers before they are tied neatly and placed in canvas bags, which are padlocked. The keys to the padlocks are with the academic registry. This is to ensure that answer scripts are not tempered with in transit. The scripts are then transported to the National Centre by vehicles. When these scripts get to National centre, they are taken to their respective departments for marking (Mafa & Gudhlanga, 2012).

Identified gaps in the literature reviewed

Whereas the bulk of reviewed literature does provide a description of how examinations are prepared, dispatched to regional centres and administered to candidates, there is no mention of the amount of Chaos that come with such a task. Yet, it is clear from a few experiences of other institutions such as NOUN and ZOU that examination management task is often times intertwined with complexity, irregularity and uncertainty (Mafa & Gudhlanga, 2012). It is this limited exploration of examination management in lowly resourced communities, such as North-Eastern region in Zambia that this study explores to contribute to the quality assurance discourse in ODL.

Methodology

The epistemological and ontological viewpoint adopted in this article embraces the nature of reality to be subjective, socially constructed and only understood by examining the perceptions of the human actors. To this effect, reality is understood from multiple perspectives and it is holistic and contextual in form. It is assumed that meaning is embedded in people's experiences.

Further, in this study, the axiological assumption stance taken considers the researchers' values as a critical ingredient to the success of the study as values aid to determine what are recognized as facts and the interpretations thereof. To this end, the researchers are actively involved with that which is being researched since they happen to be practitioners of distance education within the University.

Research paradigm

In this research, the study design is driven by the qualitative worldview with a focus on Hermeneutic Phenomenology. Proponents of Hermeneutic Phenomenology approach argue that it is impossible and undesirable to set aside or bracket researchers' experience and understandings. Halling (2008) observes that researchers need to come to an awareness of their pre-existing beliefs, which then makes it possible to examine and question them in light of new evidence. It is also sometimes referred to as constructivism because it emphasises the ability of the individual to construct meaning. The rationale behind the choice of the paradigm is guided by the research phenomenon under study 'management of decentralised distance education examination' which is a social construct. Since the phenomena under study is situated within the social science and not natural science, therefore, action and behaviour which are generated from within the human mind cannot be studied objectively by the researchers as advanced by Bryman (2008) and supported by Guba and Lincoln (2005).

In order to explore 'management of decentralised distance education examination' through the lenses of examination facilitators within a distance education context; the study adopted an interpretive research paradigm (Bryman, 2008). The central endeavour in the context of the interpretive research paradigm was to understand the subjectivity world of the staff while managing decentralised distance education examinations in a lowly resourced community.

In an interpretative study such as this one, theory (grand ideas) is emergent and must arise from particular situations, it should be 'grounded' on data generated by the research (Glaser & Strauss, 1967). Further, the interpretive nature of this study was depicted in terms of its emphasis on reflective journal, use of in-depth interviews, Document Reviews, Focused Group Discussions (FGD) and use of purposive sampling method (Denscombe, 2002).

Research procedure

The starting point was a Document Analysis (DA) focused on (i) Student Record Management System (SRS), (ii) Examination Attendance Register and (iii) expenditure budget for the North-Eastern Region for 2015/16 Academic year. Document Analysis was meant to establish the presence of and management strategies deployed in managing distance education examinations amidst chaos. This was followed by a Reflective Journal (RJ) approach of the two (2) members of staff who managed examinations in North-Eastern region who were purposively selected and tasked with the responsibility of detailing their lived experiences during a three (3) week examination period. The journal of experiences was structured as follows: (i) Date of examination session, (ii) Exam course, (iii) Lived experience, (iv) Lessons generated as shown in table 1.

Table 1: Example of Data capturing model for Examination Facilitators

Date	Exam Course	Lived Experience	Lessons Generated
22/08/16	LIT 9550/ LIT9554	Rescheduled to 2nd September, 2016 afternoon due to confusion created due to lack of clarity on new course codes	

Furthermore, the experiences of the two (2) examination facilitators (table 1) were complemented with the experiences of sixty-six (66) distance education students (table 2) who happen to have been at the examination centre in North-Eastern region. The students' experiences were elicited through interview sessions.

The following were the research questions which guided the research process:

1. Does Chaos exist in the management of distance education examinations?
2. What challenges are associated with decentralised distance education?
3. What strategies are applied to manage decentralised distance education examinations?
4. What lessons can be drawn from the lived experiences of stakeholders in the management of decentralised examinations?

The sixty-six (66) students were engaged in personal semi-structured interviews as well as focused group discussions while at the examination centre before the close of a three-week examination period. This helped to elicit vital information as participants had clear and fresh memories of their lived experiences during the examination period.

Table 2: Example of Data capturing model for distance education students

DE Learners' voices on Examination Management in North-eastern Region, Zambia					
Pseudonym		**Good Practice**		**Challenges Recommendations**	
Case		**Code**	**Themes**	**Themes**	**Themes**
1	AA	AA01	Exam centre was conducive	Study materials in some courses were not adequate enough	Most students writing from this centre have their names in kasama. Kindly transfer the names by inquiring from students during residential
			Invigilators coordinates the exams very well and in mature manner	Most students complained of not having modules as some lecturers were still revising	
2	AB	AB02	The Invigilators were always on time, hence starting at the right time.	No communication about the centre from IDE of exams	The University should improve on communication especially us in far places from lusaka. Only those in Lusaka have information
			The centre was conducive for exams	Didn't receive assignment and examination slips	
			Received help when had irregularities with course taken		
3	AC	AC03	Examination was fair	I had no challenges during examination, the only challenges I had was during residential, issuing of rooms to be transparent. Some were treated as VIP, while others as if they didn't pay.	Final timetable to be ready a month before so that we prepare ourselves adequate

The code e.g. AA01 represents a pseudonym given to a participant, as the identity of all the participants remained anonymous throughout the study. The areas of concern included the Good Practices, Challenges encountered and their considered Recommendations. The experiences of all participants were then colour coded and clustered in emerging themes using an open source Qualitative Content Analysis (QCA) software as supported by Mayring (2014). The elicited information was cross-checked by inside informants to avoid the usual *emic*/*etic* related challenges. This means that interpretation of phenomena may be from the point of view of the stranger, or outsider (*etic*) and, therefore, may fail to grasp important in-group meanings (*emic*).

Findings and Discussion

The findings and discussion section is broadly segmented into various themes as follows: (i) challenges in managing Distance Education Examination; and (ii) Strategies for managing distance

education examinations. Emerging from the document Analysis of the Student Record System is a student distribution by regions for 2015/16 academic year in figure 3.

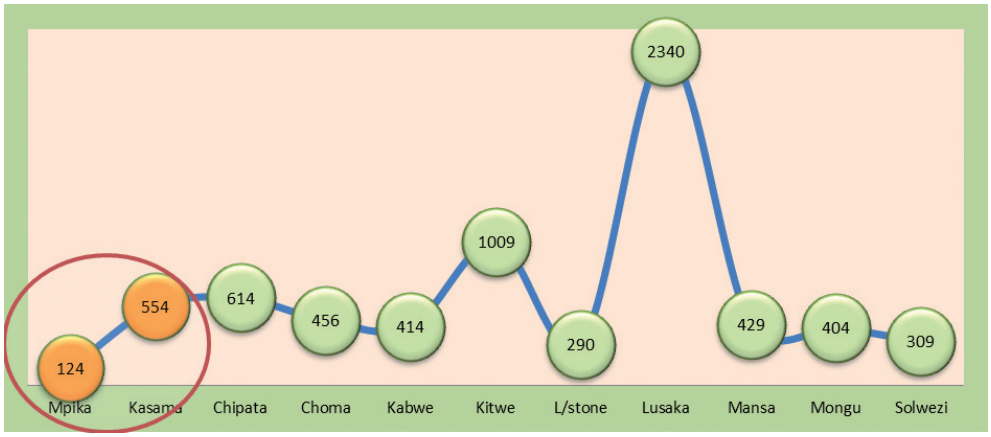

Figure 3: UNZA DE Student Distribution by Regional Centre, 2015/16 Academic Year

Figure 3 shows a red ring with 2 regions under spot light namely: North-Eastern and Northern Regions. The North-Eastern regional centre with 124 students as reflected on the Student Record System (SRS) while the Northern Region had 554 on the SRS. In practice, the situation was different as the bulk of the students classified under Northern Region flocked for their examinations to the North-Eastern Region. Such a situation proved a challenge in the management of examinations as it was difficult to predict and plan for the needs of candidates in advance. As re-echoed by AH08 and AL12 who observed that Mpika centre had only a few names of candidates on attendance examination registers. "The challenge of not having students in one location contributed to examination papers clashes which made some of us apply for deferred exam", AQ17 reported. This situation was attested by BM38 who reported having "4 courses clashing at once." This then fits well within the Chaos theory given the resultant complexity, irregularity, unpredictability, ambiguity and uncertainty issues that emerged from managing the distance education examination as posited by Mehralizadeh and Hosseinzadeh (2007).

Challenges in managing distance education examinations in North-Eastern Zambia

The challenges were manifested in various ways such as missing examination papers; wrong course labels on examination tamper proof packages, under estimation of candidates as reflected in candidates' population who out-stripped the available examination papers in some courses, among others. For instance in LIT 3510 course, a wrong examination paper was enclosed. This could be attributed to examiner concerned packing examination materials without verification. BJ35 observed, "unavailability of LIT 3510 as per scheduled date and rescheduling to 9th September was very inconveniencing". Lorenzen (2005) argues that a teacher is the most Chaotic element in a classroom because the teacher makes decisions that drive many of the reactions as was the case in the wrong packaging of examination materials by the examiner in LIT 3510 above. The effect of such a decision was harshly felt by a number of candidates, which left them disappointed for failing to write as promised on the examination time table resulting in additional costs on their part.

In addition, the CVE 4010 course had four (4) question papers enclosed in the examination envelope against the nine (9) students who showed up for the examination. To compound the situation

further, on this particular day, the district had no electricity to power-up the photocopying machines to enable the examination invigilators to replicate the examination paper. Even the only diesel powered photocopying machine available was 40km, away from the examination centre further complicated by the non-availability of transport. Other courses where invigilators faced a mis-match challenge in terms of numbers of examination papers enclosed out-stripped by the number of candidates included RES 3010. AD04 observed that "we were told to wait for our exam paper because few papers were enclosed". AL12 attributed the observed challenge by AD04 to "lapses from the institution."

The two experiences presented above on missing examination papers could be classified as crises situations. MacNeil and Topping (2007, p. 64) defined a crisis as an event that "causes severe emotional and social distress, which may occur at any time and without warning".

Further, once the invigilators had settled and briefed candidates on the timetable, a day before the commencement of examinations in North-Eastern region, it became apparent that some papers not enclosed had expectant students present. For instance in LAN 4212 course, the examination paper was not distributed to regional centres as the examiner claimed ignorance on the need to have prepared for students sitting for exam in regional centres. To this extent, the paper was only emailed 45 minutes after 09:00hrs. The affected student could only start writing an hour later at 10:00hrs. This created tension and confusion among the affected candidates as well as staff managing the examinations as alluded to by Mehralizadeh and Hosseinzadeh (2007) in their discourse on reengineering education amidst chaos.

Another challenge was noted in PSG 4224 course which was not only timetabled but also not enclosed in the North-Eastern region, yet there was a student ready to sit for the same paper. This particular challenge was only brought to the attention of the invigilators a few minutes before the commencement of the afternoon examination session, a student informed invigilators that his course mates were writing the named paper at the National Headquarter and wondered why it was not the case for him at the North-Eastern regional examination centre. This challenge could be attributed to unverified examination timetable by the departmental head where the named course belonged.

Other challenges bordered on suspected malpractice cases. For instance, DEV 9550 Examination paper had to be replaced with a new paper just before the examination hour mark. The new replacement had to be emailed and later downloaded at last at the Examination centre. In addition, POL 3030 and POL 9010 were equally delivered a few hours before the examination scheduled time as replacement through a hired institutional vehicle across the 10 Regional examination centres nation-wide. The latter papers were delivered on the pretext that the earlier sent papers had leaked hence the need for replacements. CH59 retorted that there were "many incidences of examination leakages. Examination question papers should be produced and sent every day to ensure fairness". To this extent, changing papers at very short notice was a good practice to assure the quality of the assessment process and maintain the credibility of the qualifications offered by UNZA as attested by BC20 who commended the University as follows: "job well done for changing exam papers country-wide at short notice". However, such a measure had its resultant effects as expenses for transportation, emailing, downloading and printing kept on rising against the available meagre resources.

In addition, EDU 2011 examination paper had wrong instructions from the examiner: it compelled students to write their names on the question paper and turn it as part of the answer booklets when it was against the University examination regulations. As a university, anonymity is the norm when it comes to indicating the details of the candidates on the answer scripts. Instead, candidates are compelled to indicate only their computer numbers on the officially provided answer booklets and not the question papers. This too was a challenge as the invigilators found it had to reconcile the wrong instructions given by the examiner against the official University regulation on the matter among students during the examination session.

The challenge of not having an institutional vehicle for local transport was real as the nearest convenient lodging place available was 40km to and from the examination venue. This meant that within 15 days allocated for the entire examination period, 600km was covered locally excluding extra local errands and emergencies within the district. This then translated into a minimum distance of 700km covered, meaning twice more than the initially expected distance of 350 km. If then the invigilation staff had to hire a tax daily, K200 equivalent of $20 US Dollars. This would have translated into K3, 000.00 equivalent to $300 US Dollars, twice more than what was budgeted and approved.

Initially, the local invigilator (resident lecturer for North-Eastern region), was only assigned to serve as one of the invigilators for twelve (12) days, due to budget constraint. Given the unexpected challenge of downloading, printing and photocopying of a number of examination papers, requiring the presence of a reliable and accountable University staff while another staff took care of the rest of examination materials, it became vital to request for an approval from the administrators to extend the services of the resident lecturer for five (5) extra days. This meant adjusting the earlier planned budget significantly amidst meagre resources.

Strategies applied to manage distance education examinations in North-Eastern Zambia

Given a multitude of challenges encountered, the examination facilitators had to think outside the box and innovate and devise strategies to mitigate the highlighted challenges above. This is consistent with Schoenberg (2005) who observes that during times of uncertainty, institutions should have crisis leaders with adequate skills to decide what objectives need to be achieved and understand how every action they take would affect their organizations. Having had a first-hand insight on the challenges experienced by invigilators, the administrator approved the extension easily. This then meant that budget lines had to be varied by ensuring that both the transport logistics and a competent, reliable and accountable invigilator were maintained until the end of the examination period. The measure taken by the authority to approve the extension of the second supervisor is in tandem with Altun's (2001) admonition who argues that when education managers can pay attention to events and handle them with sensitivity, they can help prevent bigger problems from occurring (Altun, 2001).

Another strategy deployed included the use of a mobile phone and emailing facility to receive and send important examination information as well as personal laptops, printer and Internet facilities. Additional examination papers were delivered via email at short notice yet invigilators were still expected to have access to the Internet, printing and photocopying facilities in places where such resources are not readily available.

To overcome the challenge of transport, the invigilators resorted to using their personal family car which proved reliable especially during emergencies given that taxis were not in sight within the vicinity of the examination venue. The car had its own challenges as it kept on showing mechanical problems during the course of the examination period. The cost of repairing and maintaining the car was much more affordable compared to the avoided cost of hiring a taxi on commercial terms. The approach taken by the examination facilitators are within Finch's (2004) considered view of managing chaotic complex situations. The need for openness in thinking, connectivity and emergent behavior are all critical aspects for effectively managing amidst chaos and complex situations. Further, Lorenzen (2005) argues that Chaotic and complex situations are fertile grounds for new insight into the design of tasks and helps in finding ways to overcome the challenges in the given task. Therefore, the presence of chaotic situations should be taken positively as therein lay opportunities to innovate and create quality strategies for managing distance education examinations.

As for the need to extend the involvement of the resident lecturer by 5 days given the budget constraint, budget lines were rationalised to serve some funds for this purpose. For instance,

whereas the budget catered for six (6) support staff to aid the two (2) invigilators, it was felt that four (4) support staff would suffice. This move helped in serving a K3,000.00 (equivalent of $300 USD), which was diverted to address the needs of the second invigilator who had not only volunteered his labour but also family car, Internet facility and a printer, with a new cartridge. The availability of a car, Internet and printing facilities enabled the invigilators to attend to emergencies, download and print sent examination papers as well. This helped to resolve challenges that required Internet access, printing and transport facilities where the locally available facilities could not help much.

As contested by Brown (2000), to effectively manage distance education, one should beware of linear and causal approaches which often times are simplified and do not address the real issues surrounding chaotic environments. In addition, one should be beware of overgeneralization or 'one shoe fits all approaches' attempting to serve as antidotes to challenges posed by complexity and ambiguity of chaotic situations when managing distance education examinations. Instead, it is critical that one pays attention to details; the smallest, apparently insignificant factor can turn out to be very important (Brown 2000).

Recommendations

Emerging from the discourse above are the following recommendations as informed by stakeholders; key among them were distance education students and staff:

There is need for a comprehensive verification mechanism to validate the accuracy and appropriateness of the content in examination papers and later on the packaging and labels used during the examination planning phase. The examination paper enclosed should correctly be reflected on the envelope labels and tamper proofs used as well.

The need for an updated, accessible and reliable Student Record Management System cannot be over emphasized given the need for accurate statistics to inform the planning process of the examinations. Once the statistical records are accurate, updated, accessible in real time, it should be much easier to plan and implement examinations while minimising the highlighted challenges to do with missing courses, non-accurate statistical records of student distribution across programmes, courses and regions.

Need for a minimum of 2 knowledgeable and dedicated invigilators who can be entrusted with an exam centre while being supported by part-time staff. The benefits are seen during moments of Chaos as the partnership of the 2 invigilators responsible for the North-Eastern region proved useful throughout the exam period as could be attested in volunteering personal assets such as laptops, printers and Internet facilities for the benefit of ensuring that examinations were effectively managed with minimal disruptions.

The need to budget for a dedicated vehicle for local errands, printing and Internet facilities as well as two reliable examination invigilators in examination centres should be encouraged when planning for examination processes. Such a measure will bring efficiency and effectiveness among the managers of examinations in decentralised centres as was attested by the facilitators and students in the North-Eastern region.

The need to encourage students to remain in contact with their peers on academic matters. This proved useful among a number of students who pitched-up for an examination which was omitted on the examination timetable yet included without the knowledge of the invigilators in North-Eastern region. This is consistent with Moore's theory of transactional distance among learners (Moore & Kearsley 2012). Clearly, without such interaction, some candidates would have missed out their examination papers.

Further, draft examination timetables require thorough review from all key stakeholders and publicised widely before the examination is conducted. This would allow for inclusion of

missing courses, removal of unwanted courses and general editing of typing errors, which potentially could mislead both the candidates and staff managing examinations.

Furthermore, display of inconsistence in the regulations by the examiners creates psychological chaos in the minds of candidates especially when the invigilators do not agree with what the examiner could have compelled candidates to do. To this end, it would be critical to re-sensitize all staff on setting examination papers so that there is adherence to the University standards as approved by the Senate.

Conclusion

Whereas the administration of examinations for distance education at the University of Zambia is a rigorous exercise in terms of logistics, personnel and financial outlay, there are still a few needy areas that require further improvement, especially when dealing with new examination centres. This includes the need for a comprehensive validation process of the examination content and the need for management tools such a printers, computers, Internet facilities and dedicated transport among others in regional centres. One critical ingredient that is indispensable at planning stage of examinations is the need for an updated, accurate and accessible Student Record System with statistics disaggregated by programme, course, region and examination centre. Even after the examination planning phase is done well, what is also evident in managing decentralised examinations for distance education is a hard reality that one should be prepared to expect the unexpected and be quick to make decisions on the move especially when operating in an environment with low resources. When this is done correctly, Chaos is likely to be managed and where possible avoided. However, in an event chaos manifests itself during examination process; it should be treasured and not censured as it is a catalyst for innovation and creativity when taken positively.

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