

## Challenges to the Effective Teaching and Learning of Geography and Environmental Studies through ODeL at the Zimbabwe Open University

Vincent Itai Tanyanyiwa and Rejoice Madobi

*Zimbabwe Open University*

**Abstract:** This qualitative case study examines the challenges that influence the effective teaching and learning of Geography and Environmental Studies through Open and Distance e-Learning (ODeL) at the Zimbabwe Open University (ZOU). Semi-structured interviews and documentary analysis were employed to solicit information from twenty students and four tutors in the Geography and Environmental Studies Department (DGES). The selected research participants were chosen through convenience and purposive sampling. The DGES students' lack of computer skills and full use of e-learning, as students continue to rely on the printed module and face-to-face tutorials. The study recommends that the DGES offer an introductory course in computer use for first-year students and continuous ICT skills workshops to equip them with ICT skills.

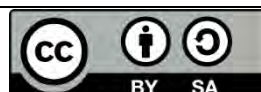
**Keywords:** barriers, blended learning, challenges, learning, ODeL, teaching.

### Introduction

Rapid changes and advances in information communication technologies (ICTs) have allowed for the integration of e-learning in ODeL (Gasva et al, 2017). These changes in technology, according to Arinto (2016), have seen a shift in the ODeL mode of delivery, from being print-based to the incorporation of e-learning or online methodologies. ODeL aims at bridging the time, geographical, economic, social, and educational and communication distance between the student and institution, teachers, courseware, and peers (Tafesse & Mphahlele, 2014). E-learning refers to the use of ICTs in learning (Mesrar & M'rabet, 2018).

ODeL, therefore, expands ODL to include the use of various contemporary technologies for synchronous and asynchronous learning and communication (Arinto, 2016). Such technologies offer flexibility in teaching and learning by enabling multiple forms of communication and interaction between the learner and the teacher (Arinto, 2016). ODeL provides flexible teaching strategies and the sharing of free learning resources and ICTs, which lower the cost of producing learning material (Alfonso & Garcia, 2015). ODeL offers flexible time and place learning opportunities (Ghosh et al, 2012).

The use of ICTs offers many opportunities, hence, various studies have focused on the issue. Chitanana et al (2008) and Letseka et al (2018), for example, focused on the state of e-learning in Zimbabwean universities and the challenges of e-learning in South Africa. Studies done at the ZOU explored students' preparedness to adopt e-learning, factors that influence the use of ICTs by students and the extent to which students utilised ICT facilities in their assignments and research projects



(Gasva et al, 2017; Ranga & Mhaka 2016; Mafa & Mpfu 2013). In Thailand, Ngampornchai and Adams (2016), focussed on rural students' acceptance and readiness for e-learning. The studies show ODeL opportunities and challenges. Despite the challenges, technological advancement, policy shift and the recent COVID-19 pandemic provide a mix of factors that have pushed the use of ICTs in teaching and learning further even in developing countries such as Zimbabwe.

Zimbabwe's higher education sector faces challenges related to the socio-economic outlook. ODeL has more advantages to the marginalised learner, hence, it thrives despite Zimbabwe's adverse circumstances. Since the introduction of the e-learning platform, ZOU's MyVista, the use of ICTs in teaching and learning at the university has become mandatory. ODeL enables access to dedicated and professional tutors and staff from other universities in Zimbabwe and elsewhere

The study sought to examine the challenges that influence the effective teaching and learning of geography and environmental studies through ODeL at the ZOU's Harare/Chitungwiza Regional Campus. Knowing and understanding the challenges that students face is of utmost importance if the DGES is to enhance the quality of teaching and learning. ODeL service quality is positively related to e-learning student satisfaction and also influences student loyalty (Pham et al, 2019).

## **Background of the Study**

ZOU, a State University, opened its doors in 1999 with a mandate is to provide Higher Education through Open and Distance Electronic Learning (ODeL) as per its charter through an Act of Parliament, ZOU Act (Chapter 25:20). The ZOU started as a print and face-to-face tutorial-based university. The ZOU operates on a regional scale with established campuses in all the ten geopolitical provinces of Zimbabwe and a Virtual Regional Campus. In some provinces, there are district centres whose aim is to take higher education to peoples' doorstep. Each regional campus serves as the hub for all the learning activities in that province. ZOU offers an e-learning facility through a Learning Management System (LMS) called "MyVista" that enables students to apply, register, pay fees and carry out studies from any part of the world.

Advances in ICTs prompted the ZOU to add e-learning tools to traditional teaching/learning strategies. ZOU's delivery mode is a blended approach, hence, the use of the term ODeL in this study. The DGES started offering the degree of Bachelor of Science Honours in Geography and Environmental Studies (BSc. HGES) since January 1999, using the printed module and face-to-face tutorials. The DGES intends to introduce more programmes at both undergraduate and postgraduate levels, hence, the need to know and understand the challenges students face.

## **Research Questions**

The study was guided by the following research questions (RQ):

**RQ1:** Who are the main players in the teaching and learning of geography and environmental studies at ZOU?

**RQ2:** What challenges impact on the teaching/learning of undergraduate geography and environmental studies through ODeL at the Harare/Chitungwiza Regional Campus?

**RQ3:** How can the challenges faced by undergraduate geography and environmental studies in the DGES be redressed?

## **The Community of Inquiry (CoI) Framework and ZOU Blended Learning Design**

The qualitative-based study was on the co-creation of knowledge between the teacher and the learners. The Community of Inquiry (CoI) is a model of inquiry-based teaching and learning to structure the process of learning in an online or blended environment (Garrison et al, 2000). The CoI is based on the work of John Dewey and constructivist views of experiential learning that create deep and meaningful learning. The CoI framework creates opportunities for active cognitive processing, interaction and peer-teaching and self-reflection. Guidance from teachers at the right time encourages engagement and shared application activities, signifying the importance of the creative communities of inquiry in the classroom, whether face-to-face, online or blended.

Blended learning is an educational approach, which integrates face-to-face classroom practices with online and mobile delivery methods. It aims to provide the learner with a well-planned, managed, and well-structured teacher-facilitated interactive learning environment, where high-quality content, activities, and experiences can be customised to learner needs and preferences, unrestricted by time and location (Hrastinski, 2019). Blended learning refers to combining different instructional methods, pedagogical approaches or technologies, although these non-aligned methods are the most influential in blended learning definitions. Blended learning facilitates multimodal learning and more specifically it: 1) incorporates flexibility; 2) stimulates interaction; (3) facilitates students' learning processes; and (4) fosters an affective learning climate. The application of a blended CoI ensures that students have time to reflect on meaning and engage in discourse to share understanding. A bricoleur is a facilitator who crafts from various materials and tools which happen to be available. The teacher, as bricoleur, makes a series of professional judgments about what and how to teach (Honan, 2004). The blended teacher, as a bricoleur, makes a series of professional judgments about what and how to teach using the diverse range of material and tools available. An effective teacher is faithful to the learning objectives and subject matter at hand, while also attending to the variety of characteristics students bring to the experience. Effective teachers bridge content and student needs through appropriate student engagement.

The ZOU employs blended learning; an approach that combines face-to-face learning and technology-mediated learning. In blended learning (BL), students learn online through a learning management system (LMS). They access emails, e-books, e-journals, complete online assignments and collaborate using discussion forums and chatrooms. Blended learning is the “new traditional model” of learning (Graham, Woodfield & Harrison, 2013). Blended learning is complicated, e.g., What is blended learning? What fits within the blended learning realm? What is blended? How do we blend? And finally, why do we blend? (Hrastinski, 2019). ZOU embraced the blended learning strategy six years ago to facilitate multimodal learning because it: 1) incorporates flexibility; 2) stimulates interaction; (3) facilitates students' learning processes; (4) fosters an affective learning climate; (5) continuous information access; (6) cost-effectiveness; and (7) pedagogy provided by synchronous and asynchronous communication.

The application of a blended CoI is to ensure that students have time to reflect on meaning and engage in discourse to share understanding. ZOU's blended learning teaching principles are premised on the need to :

- produce a campus-wide environment that embeds blended learning as a means of enhancing the learning outcomes of students,
- develop an environment that permits enhanced interaction and collaboration between faculty and students,
- integrate technology and face-to-face teaching to support student learning experiences and outcomes,
- provide supportive technical infrastructure for the effective and competent delivery of instruction,
- reduce the economic impact on the delivery costs of education at the ZOU,
- craft a quality assurance framework and consistent instruction.

The ZOU adopted and implemented blended learning through face-to-face teaching, multimedia technologies and online materials. The intention is to meet the diverse needs of learners. Barriers exist, e.g., lack of policy to guide implementation; a lack of faculty support to ensure effective implementation of newly introduced approaches; a low level of technological and computer skills among both learners and lecturers; and inadequate technological resources, such as computers. The ZOU promotes blended learning; integrity and freedom of the learner are primary. Teaching and learning process provides flexible sequences of study, negotiated objectives, content, learning methods, negotiated methods of assessment and a choice of support mechanisms such as medium or media, whether print, online, television or video and a place of study at home, at the workplace or on campus.

The DGES learning approach is problem-based and process-oriented. In the core courses, learners have responsibilities for developing the assignment. Besides, learners find information and decide on the form of how to present their work. Problem-based learning is done through group work. The initiation of collaborative and communicative skills is a central topic in the programme, and problem-based learning within groups is an effective means of learning. There is also the use of teaching/learning approaches such as seminars, tutorials, digital and visual methods and individual work. The benefits of blended learning include enhanced learning skills, improved access to information, increased satisfaction and learning deliverables, and opportunities both to learn and teach others. The design rationale is essential for:

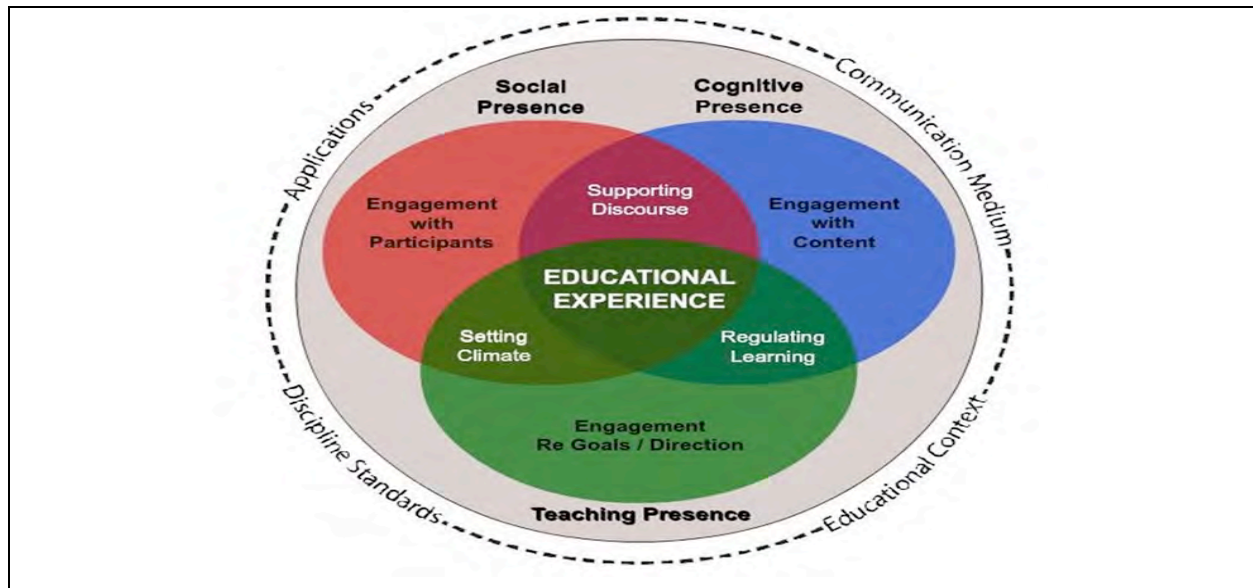
- Better communication — It is easy to update learners' new announcements, assignments and test results, especially for remote learners.
- Boosting learners' efficiency — Learning materials are accessible online, with easy access, learners learn at their own pace and acquire knowledge and skills in the way that best fits their learning styles.

- Building engagement — Help the engagement process and provide opportunities for assessment, consultation sessions about shared goals and projects with learners and course moderators, in-person or virtually.
- The enhancement of teaching efforts — Learner's needs are different, and every learner follows a unique learning style, it is essential to try to meet learners needs for the course to be useful. Some learners benefit more from reading text accompanied with presentations while others understand the topics better; different learning styles become possible, e.g., use of PowerPoints, images, audio files and video files.
- Improved collaboration — Blended learning enables the course participants to work together, engage in discussions, and provide useful feedback to one another. Online discussions and peer feedback significantly improve learners' knowledge and skills.
- Keeping track of learners' progress — Tracking the progress of learners is important but the traditional methods of learning do not make it easy to see how the course participants are performing before assessment. Blended learning tracks learners' progress through understanding their strengths and weaknesses.

Learning/teaching pedagogy methods have been evolving from teacher-centred to student-centred learning. The teacher is no longer the only knowledgeable authority but a facilitator of learning. The teachers' role in building relationships ensures students develop autonomy following constructivist theories of education, which demand that students take more responsibility for their learning. The learning is self-directed with the promotion of problem-based learning strategies. Technology provides opportunities for teacher-to-student and student-to-student interfaces.

CoI is inquiry-based teaching, describing meaningful learning through collaborative engagement in critical discourse and reflection in order to construct personal meaning and confirm mutual understanding (Cleveland-Innes & Wilton, 2018). CoI represents the creation of a deep and meaningful (collaborative-constructivist) learning experience through the development of three interdependent elements — a social, cognitive and teaching presence with emotional presence as a potential fourth component (Cleveland-Innes & Wilton, 2018). CoI guides in developing blended learning content and processes to support active, lifelong learners. CoI framework creates a chance for self-reflection, active cognitive processing, interaction and peer-teaching. Also, expert guidance from teachers at the right time encourages engagement and shared application activities, highlighting the importance of creating Communities of Inquiry in the classroom, whether face-to-face, online or blended.

## The Community of Inquiry Model



**Figure 1: Community of Inquiry model**

Source: (Cleveland-Innes & Wilton, 2018)

Inquiry-based learning from Dewey (1938), highlights the role of experience to construct one's knowledge — students take control of how they develop the knowledge base itself as a higher-order skill in Bloom's Taxonomy. The ideal situation from a social constructivist perspective of experiential learning is one whereby questions, problems, methods and answers about a topic come from learners; the role of the facilitator/teacher is to direct and guide learning. Presence is a state of mindful awareness, receptivity and connectedness to the social, cognitive, emotional and physical workings of both the individual and the group in the context of their learning environments (Cleveland-Innes & Wilton, 2018).

**Social Presence** — the ability of participants to identify with the community (e.g., course of study), communicate purposefully in a trusting environment and develop inter-personal relationships by way of protecting their personalities. Social presence is the level of connectedness among instructors and students that determines how motivated participants are to take an active role in their own and their peers' meaning-making processes. Social negotiation of meaning that involves reification (making meaning from abstract information) and participation (active involvement in the social process) (Hrastinski, 2019).

**Cognitive Presence** — The extent to which learners can construct and confirm meaning through sustained reflection and discourse in a critical Community of Inquiry. Cognitive presence emerges out of four distinct but overlapping components of practical inquiry: triggering events, exploration, integration and resolution. Establishing deep and meaningful learning requires activity in all four components. However, Akyol and Garrison (2011) report evidence that cognitive presence requires a balance among cognitive, social and teaching presence. Direct instruction and facilitation of cognitive activity, beyond the content, is a crucial role for teachers using this framework. The reasoning

corroborates Archibald's (2010) evidence that teaching presence and social presence explain 69% of the variance in cognitive presence.

**Teaching Presence** — The design, facilitation, and direction of cognitive and social processes to realise personally meaningful and educationally worthwhile learning outcomes. Teaching presence, rather than "teacher presence," is named to allow for a teaching function for both teachers and students in a CoI. While the teacher, or instructor of record, plays a leadership role, teaching presence allows for and fosters peer-teaching among students. The importance of teaching presence is in the generation of satisfying learning experiences among students (Chakraborty & Nafukho, 2015; Morgan, 2011; Shea et al, 2010). It is, however, linked to other presences in a significant way. For example, Shea and Bidjerano (2009) report evidence that the student experience of teaching presence affects the emergence of social presence.

**Emotional Presence** — In addition to these three presences, the fourth is emotional presence (Cleveland-Innes & Campbell, 2012; Stenbom et al, 2016). Emotional presence is the outward expression of emotion, affect and feeling, by individuals and among individuals in a Community of Inquiry, as they relate to and interact with the learning technology, course content, students and instructor. Item indicators for analysis of emotional presence are with the instrument for measuring the original three presences (Arbaugh et al, 2008). Exploratory factor analysis suggests emotional presence may stand alone as a separate element in the framework (Cleveland-Innes et al, 2013).

## **Literature Review**

ODeL is a multi-dimensional concept aimed at bridging the time, geographical, economic, social, and educational and communication distance between student and institution, student and academics, student and courseware and student and peers (Tafesse & Mphahlele, 2014). ODeL focuses on removing barriers to access learning, the flexibility of learning provision and student-centeredness (Joubert & Snyman, 2017). The separation of teacher and learner characterises ODeL in time or place, or both time and place and the use of a variety of both print and electronic resources (Commonwealth of Learning, 2004). The growth of ICTs has changed the ODL platform. This growth in ICTs led to an escalation in e-learning and increased the popularity of ODeL (Wakahiu & Kangethe, 2014). ICTs and ODeL are a means through which equity, access and quality of education is attained (Wakahiu & Kangethe, 2014). ODeL expands the term ODL to include the use of e-learning or online learning methodologies both synchronous (occurring at the same time) and non-synchronous (occurring at different times), to increase various types of interaction and dialogue and to bridge the distance between teachers and learners (Arinto, 2016; Wakahiu & Kangethe, 2014). The use of e-learning increased the flexibility and accessibility of ODL.

E-learning is "a field that emerges at the confluence of educational psychology and instructional design, of educational technology and distance education, and of recent technological developments related to the Internet and the Web" (Friesen, 2009, p. 6). ODL institutions shifted from print-based to use of virtual learning environments and Web-based technologies (Arinto, 2016).

In ODeL the teacher is a facilitator whose role is hampered by resources challenges. ODeL can isolate a student, hence the need for social, cognitive, emotional and teaching presence in the LMS. Regular support and contact is essential to motivate students. ODeL enables students, teachers, and support staff to build relationships, collaborate and communicate regularly through chat, email forums and

online virtual classes. However, in Zimbabwe, infrastructure and resources to support these technological developments are limited due to narrow bandwidth.

The integration of ICTs in ODeL offers promising opportunities for the marginalised communities in Africa in terms of access to education and flexibility in teaching and learning (Wakahiu & Kangethe, 2014). ODeL students face several challenges (Musingafi et al, 2015). ODeL challenges could be solved by the use of ICTs in teaching and learning but as Ngubane-Mokiwa and Letseka (2015) aver, ODeL assumes that all learners can access and use the electronic learning gadgets optimally. Learners in the developing world have limited access to computers and electronic devices as well as the digital skills required for optimal learning (Njihia et al, 2016; Ranga & Mhaka, 2016). Buying and maintaining modern computers and the appropriate software is a challenge for institutions of higher learning and so is the cost of acquiring ICT gadgets by students (Mafa & Mpofo, 2013; Mafa & Gasva, 2015; Ranga & Mhaka, 2016). At the ZOU students lack ICT skills and access to computers and they need assistance with basic computer applications such as MS Word (Ranga & Mhaka, 2016).

While Wakahiu and Kangethe (2014) claimed that the use of cellular signals provides Internet access in rural areas, Mafa and Gasva (2015) noted that in Zimbabwe's remote areas, where most ZOU students are based, had unreliable Internet network coverage. Learners from urban areas have better access to the Internet than those in rural areas. In Uganda, Ouma (2019) noted that a lack of ICT skills and facilities was high among students from rural and marginalised places. Despite the noticeable improvements in cellular network coverage in developing countries, the digital divide is evident. This digital divide means that learners from rural areas lag behind their urban peers in learning as they cannot access e-learning. Learners travel long distances to access the computer facilities, and, consequently, ICT facilities that are provided by ODeL institution are underutilised (Ranga & Mhaka, 2016). Gasva, Moyo and Dzama (2017) observed that most rural students have limited access to the Internet and prefer printed learning materials. Availability, adequacy and functioning ICT infrastructure and reliable power supply remains a pipe dream for governments in developing countries (Ranga & Mhaka, 2016). Limited ICT infrastructure promotes the digital divide and hampers the effective integration of ICTs in teaching and learning (Mallinson & Krull, 2013). The geographical location, limited knowledge and skills to use ICT, and financial constraints, are significant considerations in deciding the type and combinations of ICTs (Pena-Bandalaria, 2007).

## **Methods**

### **Research Design**

The study employed a case-study approach, a qualitative design. A case study "is an in-depth description and analysis of a bounded system" (Merriam & Tisdell, 2016, p. 37). Using a case study enabled the understanding of social aspects (barriers to effective teaching/learning in ODeL) in natural settings by emphasising the meaning, experiences, and views of students from a January to June 2018 semester, from twenty students, two part-time tutors and two full-time tutors from the ZOU Harare Regional Campus who were selected using a combination of purposive and convenience sampling. The target was final year GES students at the Harare/Chitungwiza Regional Campus with more experience with the operations of the university and who thus understood and articulated the challenges.



## **Data Collection**

Interviews and documentary analysis were the two main data collection methods. Two interview guides targeted the tutors and students. Both the interview guides consisted of seven questions each. A pilot study was done to pretest the interview guides. The pilot study focused on five third-year students and two tutors. A combination of face-to-face, semi-structured interviews and telephone interviews gathered data from the students. Some interviewed part-time tutors teach in conventional universities, and it was interesting to note how they compared the two learning platforms. The documentary analysis generated data for the study, including written documents from students registering their grievances to the DGES and the Centre for Student Management. The focus was on quality of assignment submissions, adherence to assignment submission deadlines, tutorial attendance, as well as the quality of assignments.

## **Data Analysis**

Thematic analysis analysed the gathered data. Braun and Clarke (2006) mention that thematic analysis is a method for identifying, analysing, and reporting patterns (themes) within data. The following steps, as suggested by Braun and Clarke (2006), were followed. The first data analysis stage was manual development and applying codes, which meant data categorisation into themes such as an infrastructure. The codes were assigned titles such as computer literacy and use of the eLearning platform. Open coding made sense of the data, followed by code interconnections and linkages. The story then began to emerge, i.e., the challenges faced by DGES students through selective coding. In the second stage noting, patterns, relationships, and themes about codes stated in the preceding stage, i.e., the words and phrase repetitions, primary and secondary data comparisons, findings of literature review, and aspects that participants did not mention. The final stage involved linking research findings to research the research aim and objectives, including notable quotations used from transcripts to highlight significant themes within findings and possible contradictions.

## **Findings**

### **Demographic Characteristics of the Students**

A total of 12 students (60%) were male, and eight (40%) were female. The average age of the students was 24.

### **Use of the E-learning Platform**

All twenty students (100%) indicated that they could not access hard copy modules after registration. ZOU students are entitled to receive a printed module for each registered course but, over the years, the modules have not been availed on time though students would have paid. One student said, "I rarely get all modules after registration. I sometimes get just two modules instead of four and as a student the university is really letting me down". Though soft copy modules and other e-resources are available on MyVista, most students do not have computers and smartphones to access them or the financial capacity to print them. One student noted that the library was inadequate in terms of hardcopy and electronic resources. Some e-resources were no longer accessible due to expired subscriptions. The university is facing severe financial challenges due to students dropping out as well as the severe socio-economic and political challenges that Zimbabwe has faced in the last two decades. There is limited knowledge and exposure to online collaborative teaching and learning technologies by lecturers. Training in collaborative technologies should be mandatory for all teaching

staff, and refresher courses to cater for technological changes. Also, teaching staff have limited knowledge and experience of technology integration frameworks or theories like the Community of Inquiry. Turning lecturers to blended learning facilitators and collaborators, without training, poses challenges. There is a desire to resist change, and a postgraduate diploma in higher education raises educational pedagogy awareness .

### **Part-time Tutor Absenteeism**

A total of 10 students (50%) highlighted the challenge of low attendance at tutorial sessions by the part-time tutors. The students exposed that some tutors had the habit of not attending all the tutorial sessions, thereby wasting resources for students who would have travelled to the tutorial venues. One student said, "ZOU should find ways of employing dedicated and committed tutors because some of the tutors do not care about the quality of tutorials they offer". The tutors bemoaned the meagre financial rewards, and one tutor said, "The university should consider revising its payment rates considering inflation. Part-time lecturers are poorly motivated because of the low financial rewards, such that many of them do tutorials for professional development. Tutor absenteeism indicates that the e-learning platform is not being fully utilised by both the tutors and the learners to improve teaching and learning flexibility in the DGES.

### **Field Trips and Practicums for the Teaching and Learning of Geography**

All the 20 students (100%) interviewed were concerned with the issue of field trips, and practicums that are not being organised by the DGES through a set of fieldwork-based assignment questions. Students also highlighted that some courses lacked the adequate practical component, for example, the Geographic Information Systems (GIS) course, which lacked the essential practical aspect. Full-time lecturers pointed out the absence of field trips and practicums due to logistical and, more importantly, financial challenges. The challenges are made more complicated because of the ODeL delivery model. Due to financial challenges, the ZOU DGES is yet to set up a GIS laboratory.

### **Delayed Feedback on Assignments**

Delayed feedback on assignments is a challenge for the ZOU DGES, as indicated by all 20 students. One of the students observed that "before the introduction of MyVista we used to receive our marked assignments on time but now we rarely get the feedback on time". Another student said, "We are supposed to get our marked assignments well before the beginning of the examination session but we sometimes get the feedback a day or so before we start writing". Lecturers, however, indicated that while the causes of delayed assignment feedback were many, the primary cause was the extension of registration periods. With the adoption of the e-learning portal, lecturers pointed out that it was challenging to provide feedback while some students are yet to register, in worst-case scenarios assignment deadlines run into the scheduled examination period, thus, the continuous submission of assignments coincides with the marking of examinations.

### **Information Dissemination**

Students bemoaned poor information dissemination within the DGES. Students indicated that communication relating to assignment submission dates were not early enough and that the dates for the research project proposal presentation were not communicated on time. As a result, most students would do half-baked presentations. In contrast, others would shun the research project workshops. However, interviews with the lecturers revealed that the students were made aware of the need to

prepare their proposals in time, and that it was not the presentation date that was more important but the presentation's preparation. Lecturers in the DGES noted with concern that most students usually delayed starting to work on their research proposals, avoided research proposal presentations, and this influenced the general quality of the research project.

### **ICT Infrastructure at ZOU**

From an administrative position, ZOU continues to face challenges in the use of the Internet. A total of 12 students (60%) indicated that they faced challenges in intermittent Internet connections. One student said, "The administrators pointed out that in recent years ZOU has increased its bandwidth. However, the price of the bandwidth is relatively high in Zimbabwe. The administrators mentioned the overuse of undesired applications, copyright violations due to peer-to-peer (P2P) file sharing and poor application performance and quality of experience (QoE) during bandwidth congestion. Apart from the high cost of the Internet, the administrators identified that too many users on the network, viruses, uncontrolled downloads, unreliable Internet service provider(s), high demand compared to available bandwidth, different user bandwidth requirements, technical breakdowns and lack of administrative support impacted the performance and use of the ZOU's bandwidth.

### **Financial Resources to Acquire ICT Gadgets**

ZOU students in the DGES indicated that they face financial challenges. The financial problems ultimately cause delays in registration, limited tutorial attendance and access to the physical library, as well as in the purchasing of electronic gadgets such as computers. One student said, "Owning a personal laptop would lessen challenges relating to the typing of assignments and accessing learning material, but I cannot afford one". The financial problems lie in the country's economic performance. Zimbabwe has been facing severe socio-economic and political challenges over the last 20 years, and this impacts the students' financial capacity. Most students are adults with multiple responsibilities and competing demands for their finances, and this ultimately affects access to ICT at home.

### **Computer Literacy**

Lecturers' technological background is limited and more than 50% fail to use MyVista competently. Lecturers complained that BL was cumbersome due to the redesign of the modules, the uploading of materials on MyVista and the grading and providing feedback online.

Students within the DGES noted that they lack computer skills to type and upload their assignments as well as download all kinds of feedback from their tutors on MyVista. One student noted "a lot is required of me in computer use but I have never owned or used one prior to my enrolling at the ZOU". Most students submitted poorly typed assignments as they failed to adhere to some basic guidelines such as using the prescribed font type and size or assignment length.

All students at the ZOU are required to be computer literate but owing to the diverse socio-economic and more importantly educational backgrounds most of the students join the university with hardly any computer literacy or technical competence to operate ICT hardware and software. Computer literacy is also a necessity for the effective use of online library resources. The module, Introduction to Computer Applications in Geography and Environmental Studies is a third-year course in the Bachelor of Science Honours in Geography and Environmental Studies degree programme, yet it is supposed to offer computer skills throughout the four-year programme.

## **Time Management**

Since adult students face multiple responsibilities, this study indicated that they have limited time to study or to balance their studies and other responsibilities, such as employment and family. All students cited social problems. ODeL students have to divide their financial and non-financial resources between their various family, work and social demands, and this ultimately affects their studies due to competing interests.

## **Other Challenges**

The ZOU aims to be the university of choice in ODeL through its mission of empowering the world through high-quality ODeL, and its shared values of accountability, being client-driven, innovation, integrity and teamwork. Lack of appropriate technology infrastructure and gadgets retards its vision. Some students have malfunctioning laptops, and their cellphones cannot connect to the Internet. Related challenges include negative attitudes towards blended learning among staff, designing courses using the pedagogic principals of COI, and integrating technology in a way that supports meaningful learning. At the DGES academics acknowledge the importance of blended learning but perceive barriers that prevent its implementation. Lack of clear blended learning policy in the university, and among faculty and departments, is a challenge that needs urgent attention .

## **Discussion**

The challenges in the teaching and learning of geography at the DGES are mainly institutional and student-related. The specific challenges that were common to all students relate to computer literacy and facilities, financial resources, assignments, practicums and field trips and tutor attendance. Studies, for example, Kadziya and Mashatise (2012) and Chemhuru et al (2015), point to the unavailability of the printed modules and the inadequacy of face-to-face tutorial sessions at the ZOU. These studies were, however, done before the full use of MyVista. With the full implementation of MyVista, students and lecturers should be able to supplement the face-to-face tutorials and the printed modules. Thus, it is possible that MyVista is not being used effectively and efficiently by both learners and educators. These findings concur with Mafa and Gasva (2015), who noted that, despite the availability of soft copy modules on MyVista, rural ZOU students preferred printed modules. The DGES should consider other ways that can be applied to improve teaching and learning.

Though assignment feedback is essential in all teaching and learning programmes, delayed feedback remains a challenge. Ngara et al (2012) aver that in most ZOU departments, students rarely receive timely feedback on assignments. This study by Ngara et al (2012) was done before the submission of assignments on MyVista, but it gives a glimpse into the nature of assignment administration. Students disliked delayed assignment feedback due to lack of computer literacy and MyVista usage. Despite the alleged cause of delayed assignment feedback, the challenge has continued unabated.

The issue of delayed assignment feedback is in conjunction with other challenges, such as lack of time to study and limited financial resources. ODeL students are adults who not only shoulder family responsibilities but are also part-time or full-time job employees/employers (Zinyama & Ndudzo, 2015). While lack of time to study or poor time management is typical of ODeL students, it influences the quality of submitted assignments as well as the timely submission and feedback provision.

The availability of financial resources influences the effectiveness of teaching and learning of Geography through ODeL. Financial challenges hamper many things but, more importantly, the acquisition of human capital, computers, and other related technology such as bandwidth. The felt consequences of financial challenges on the purchasing of ICT facilities impact both the university and the students (Mafa & Mpofu, 2013; Mafa & Gasva 2015). The low tutorial attendance by part-time tutors is due to poor remuneration; the tutors may fail to balance multiple employee roles and hence become less dedicated to ZOU. The challenges are rooted in the socio-economic environment from which both the students and the university are operating. The challenges are a mirror of ODeL challenges. Students usually take longer to graduate because of these challenges, in itself a financial challenge.

ODeL institutions thrive on efficient and effective communication. The observations made by this study about poor dissemination of information are similar to Musingafi et al (2015) who note that ODeL in developing countries presents challenges in information dissemination. Communication between a ZOU Regional Campus and the students was not significant. However, while studies show that ODL presents communication challenges, the focus was more on the institution as a whole and not necessarily on specific departments, therefore, despite the general institutional communication, the DGES should find ways of improving its communication with students.

Today's teaching and learning requires access to reliable and adequate ICT infrastructure and Geographic applications such as GIS and remote sensing. Moreover, remote sensing requires more bandwidth and specialised hardware and software. Students lack ICT skills and access to computers. The importance of computer literacy in ODeL is paramount (Ngubane-Mokiwa & Letseka, 2015). Indeed, computer literate students should be able to interact with their lecturers and peers, access library resources and other learning material, but geography students need to advance their computer skills so that they not only submit well-typed assignments but can work with GIS and remote sensing equipment.

Fieldwork and practicums are vital to geography teaching and learning. Geography is a lively subject which involves students doing practical work. Practical work introduces, reinforces and develops both general and subject-specific skills such as graphicacy. Practical work provides the opportunity for first-hand and experiential learning: to respond to the challenges of different environments; to allow textbook derived knowledge to be sorted, confirmed and clarified; to allow fragmented or compartmentalised integrated knowledge into a coherent whole, and to facilitate the development of tacit knowledge. Geography-specific objectives of fieldwork include the teaching of specialist field techniques and research methods. Also, the use of experimental data to solve specific problems and thus illuminate areas of theory and practice are vital transferable/enterprise skills such as to provoke students to ask questions, identify problems and stimulate independent thinking, socialisation and personal development (the 'hidden agenda' of field work), such as stimulation and enhancement of enthusiasm for study and respect for the environment as well as encouraging and developing social integration of the student cohort.

Lecturers are not keen to conduct fieldwork with their students because of their previous inadequate training. For lecturers who do carry out fieldwork, it tends to be unstructured and not well organised; what is often labelled as field teaching is simply a 'Cook's Tour' where sightseeing is to take place in

the open. Hence, the sprucing-up of fieldwork, especially in secondary schools, where the point of entry is for training ZOU graduates so that they become competent organisers of fieldwork.

## **Conclusion and Recommendations**

Open and Distance e-Learning (ODEL) is important for Zimbabwe now and in the future because it bridges the communication, distance, economic, educational, geographical, social, and time barriers between the learner and the university, learner and facilitators, learner and courseware and the learner and peers. ZOU should invest in infrastructure and human resources to attract learners and thus reduce challenges associated with ODeL.

The following are the recommendations of the study:

- Specific reflective research needs on ODeL planning and implementation is of paramount importance for the success of ODeL implementation and the systems for ODeL delivery are in place and working before admission of students. A well-developed student support system is a guarantee for success in ODeL teaching and learning (Segobye, 2007). Studies in the area of student support and management need to focus on transactional, interactional and social contexts that enhance opportunities for students' retention so that they graduate within the stipulated minimum of four years and a maximum of eight years for undergraduate studies. ZOU also needs to take the issues of the printed module seriously by making provisions for the modules before the beginning of each semester, since some students live in remote areas where they cannot access the Internet.
- Internet connectivity is becoming a strategic resource for university education. The use of the Internet enhances the efficiency and capacity of ZOU to provide quality education, especially concerning the conduct of high-quality research. Internet connectivity provides a gateway to information from the information highway. ZOU has made a considerable investment in bandwidth in line with its vision: To be the university of choice in open and distance electronic learning. The institution is under pressure to provide its students and staff with reliable Internet access, but the Internet remains unreliable. The current bandwidth and computers at ZOU are not adequate to cater to all. Lack of appropriate bandwidth management is preventing the productive use of the Internet at the ZOU. Unreliability in Internet access is due to many factors, which include increased student enrolment, increased use of electronic resources for teaching and learning, and the spread of desktop applications that can use any amount of bandwidth given to users. Low bandwidth, in turn, yields low quality academic and research work. ZOU's bandwidth management strategy should be to optimise the use of shared resources among users. All stakeholders at the ZOU should agree on the services that need high priority, those that are low priority, and those that can be discontinued, through university committee systems comprising of students, faculty members, IT staff and university administrators.
- The DGES needs to offer an introductory course in computer use and communication skills during the first semester of the first year of study to prepare and equip students with ICT skills. Workshops on ICT usage could help the students during their first year of study. Also, in the interim, the ZOU DGES should collaborate with other universities locally for GIS practicums, while ways of purchasing GIS software and compatible hardware are receiving

consideration. To improve the use of e-resources in teaching and learning, the ZOU should partner with electronic retailers and other relevant partners for the provision of electronic gadgets, especially laptops for the students.

- Despite the importance of fieldwork, the problems and difficulties of organising and running a practical field course are increasing in the DGES due to logistical and financial challenges. Initially, students were engaged in fieldwork activities organised by the university each semester in each of the ten Regional Campuses. However, as the economy took a nosedive around 2006, the fieldwork component was removed. Liquidity challenges in the country tend to impact university operations. The DGES should seriously consider recommending a levy of between USD20 and USD50 to enable pupils to undertake properly and sequentially organised fieldwork activities. The best-case scenario is whereby the department organises fieldwork. The DGES arranges a place to visit/tour. The university authorities and owners of the location to be visited grant permission. Before the fieldwork day, Lecturers visit the concerned areas. After the visit, the lecturers design questions, which students should be able to answer either individually or in groups. For ease of implementing fieldwork activities, standardised questions are set so all students answer similar or the same questions. There could be some variations whereby, in one semester, students could answer questions in groups and in the next semester; individual assignments could be the preferred option. The structure of the designed fieldwork is such that, for all the four courses that students enroll in per semester, four fieldwork set exercises are covered by the arranged trip. Students should be allowed to submit their work about a week after fieldwork. During the fieldwork exercises, they should take down notes and observe as they answer preset questions. If arranged in this way, fieldwork's vertical and lateral progression of students should be easy to monitor.
- Advocacy and regulation of ODeL in Zimbabwe safeguards both practice and quality assurance principles. The focus should be the expansion of skills, competency, technology, entrepreneurial-based education, capacity-building and resource development for ODeL. The perceptual challenges of ODeL with hard facts should deconstruct the perception that ODeL is inferior. Lecturers and students alike should contribute to the global politics of education through networks and collaboration to overcome the political barriers to ODeL education in Zimbabwe, especially in areas such as GIS and remote sensing.
- The stiff competition with conventional universities offering block release programmes allows students to access and utilise e-learning resources. Block release programmes reduce the gap between the regional campus, the tutor and the student.

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#### Authors:

**Vincent Itai Tanyanyiwa** is a socio-ecologist pracademic with broad research interests in Environment and Development. His research engages with discussions on ecosystem services and human-environmental relationships, including environmental change and implication on risk and vulnerability of communities and ecosystems to these changes, water issues and urban sustainability. Vincent is a Lecturer in the Department of Geography and Environmental Studies at the Zimbabwe Open University. Email: [tanyanyiwavi@yahoo.com](mailto:tanyanyiwavi@yahoo.com)

**Rejoice Madobi** is an environmentalist with broad research interests in climate change, gender and water resources management. She has been involved in university education for ten years and is a Lecturer in the

Department of Geography and Environmental Studies at the Zimbabwe Open University. Email: joymadobi@yahoo.com

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