

**AN EXPLORATION OF POOR PERFORMANCE BY FIRST YEAR AGRICULTURE
STUDENTS IN AN OPEN AND DISTANCE LEARNING UNIVERSITY**

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Abstract

The purpose of this study was to explore poor performance by students who had gone through the first semester of the first year (level 1.1) in Open and Distance Learning at the Mashonaland West Regional Campus of the Zimbabwe Open University. Primary data were collected using a questionnaire from a simple random sample of 24 undergraduate students, interviewing both a census sample of four 1.1 lecturers as well as three conveniently sampled members of the Regional Academic Registry Department. Secondary data were yielded by analysing randomly selected student and administrative documents. Results indicate that lack of a pragmatic exposure to teaching and learning of Agriculture and lack of familiarity with the Open and Distance Learning mode of learning affected students' academic performance. Using the regression analysis, students confidence of passing examinations were highly significant at $p=0.001$ in influencing poor performance by 1.1 students. As a result of poor performance by level 1.1 students there were high rates of deferments, student drop outs and students took longer periods to complete an academic programme. The study found a close association between endogenous and exogenous factors that affected poor performance by 1.1 students. The study recommends that the Agriculture department should play a key role in motivating students so that they become self-confident. Hard copy modules should be delivered on time to reduce socio-economic burden of the students when they need to print soft copies, visit the regional centre to collect modules, visit internet accessible areas to download module soft copies.

Key words: *Agriculture, Students, Level 1.1, Open and Distance Learning, Poor performance, Programme*

1.0 INTRODUCTION

Open and Distance Learning (ODL) has become an important international strategy for resolving problems of accessibility to higher education (Allen and Seaman, 2010; Onwe and Onyemaechi, 2013; UNESCO, 2004). Open education or learning refers to the flexibility and access to instruction by the distance education mode in order to ensure that the broad availability of educational opportunities spread to as many sectors of the population as possible (Plummer, 2009). Thus technology has facilitated the effectiveness and widespread option of ODL as a teaching and learning model in both developed and developing countries. ODL therefore becomes a better option of education for those in full-time employment, homemakers, and for those who choose not to go to conventional universities for the purposes of learning (Biao, 2012; Johnson, 2005). In developing nations, Agriculture training in ODL has benefitted from the use of radio and video for many decades (Sulaiman et al., 2012) while ODL based on multimedia accessed from computers is less common (Grunfeld and Ng, 2013).

Despite the flexibility, accessibility, affordability and lifelong nature of ODL (Pityana, 2009), there are various challenges that are faced by students studying through the ODL mode in developed and developing countries, leading to high failure rates and subsequently high attrition rates in various modules that are offered through ODL (Pityana, 2009) including Agriculture. Thus, as a result of the differences which characterise the developed and developing countries in terms of technological (Gourley and Lane, 2009), infrastructural and institutional developments (Pityana, 2009), ODL students are likely to be affected by different challenges which may have an influence on low students' pass rates (Sookdeo and Ramphal, 2013; Wright, Dhanarajan and Reju, 2009). According to Letseka and Karel (2015), student pass rates in ODL institutions are typically low compared to pass rates in full-time contact Higher Education Institutions (HEI).

Similar to most universities in the developed countries that offer ODL education, the Mid-western United States University (MUSU) has taken advantage of ICT popularity by offering distance education modules online and there was a subsequent failure by students who studied through the online mode of learning during their first year, first semester (Johnson, 2005). At the end of the fifth week of lessons, nine out of the nineteen registered students had

not attempted any of the assignments thereby resulting in students failing at the end of the semester. Similar failure rates were also recorded in different modules within the same university which resulted in between 5 to 40% failure rates (Johnson, 2005). In the year 2005, in the spring semester at the same university, eight of the 20 registered students did not complete the majority of the required module work that contributed towards summative assessments (Johnson, 2005).

In developing countries such as Kenya, non-optimal utilisation of programme facilities, delays in production of learning materials, inadequate funding, and low teaching staff levels were identified as the major reasons for high failure rates amongst ODL students (Anyona, 2009). In a related study in Nigeria, it was observed that in ODL, face-to-face facilitation had a statistically significant influence on the pass rate in some of the ODL modules. UNISA pass rates and completion rates in the Bachelor's degree were in single digits, well below the national policy benchmarks of 15% set by the Department of Education National Plan for Higher Education (DENPHE). Two authoritative reports from the education department have highlighted the gravity of UNISA poor pass rates as well as low completion rates (CHE, 2013; Letseka and Karel, 2015), highlighted government policy (the policy of open and equitable access) as the major factor affecting student academic performance by ODL students at UNISA. Since Agriculture is a science module which require great transformations in the cognitive, psychomotor and affective domains (Nimbalkar, 2004), there is need to explore the causes of high failure rate by Zimbabwe Open University (ZOU) first year first semester (level 1.1) ODL Agriculture students as well as finding ways of reducing such failure rates.

Several researches have been conducted in ODL focusing on the language problem (Msoka and Vuzo, 2012), general problems that affect students studying with ODL (Bitegeko and Swai, 2012; Manyanhaire and Mtezo, 2013), high rates of failure in statistics module in ODL (Mukeredzi and Chrispen, 2011) and high rates of failure by first year accounting students in ODL (Prinsloo, Muller and DuPlessis, 2010). From these studies, there is little empirical evidence which is available to demonstrate the causes of high failure rates by ODL students and more specifically Agriculture students in their level 1.1 of study at the ZOU. It therefore implies that performance of students in agricultural examinations at all levels become significant and worth noting if the economy of a country is to agro-based (Alam et al., 2009).

However, from the information that is available, the causes of poor performance can differ

from country to country, between the teaching and learning approaches that are used in ODL, with the academic programme that a student is studying for as well as the academic level of study in ODL (Lugoma, 2017). This study therefore investigates the causes of high failure rates by 1.1 Agriculture students at the ZOU.

2.0 STATEMENT OF THE RESEARCH PROBLEM

There have been high failure rates by ZOU 1.1 students in the modules Anatomy and Physiology of Farm Animals, Introduction to Soil Science, Plant Physiology and Introduction to Agricultural Economics as shown in Table 2.1. Over the past four years, the failure rates ranged between 17% and 57% across the four level 1.1 modules. Most researches on ODL student performance generalise the causes of poor performance (Lugoma, 2017) without narrowing down to specific programmes and the academic level of study in ODL.

Table 2.1: Failure rates of 1.1 Agriculture students

Module	Academic Years			
	2014 % Fail	2015 % Fail	2016 % Fail	2017 % Fail
Anatomy and Physiology of Farm Animals (BSAM101)	30	38	35	44
Introduction to Soil Science (BSAM 102)	30	30	29	17
Introduction to Agricultural Economics (BSAM 103)	47	36	39	43
Plant Physiology (BSAM 104)	57	37	37	27

Source: ZOU Academic Registry, 2018

Programme specific research is of importance as the undergraduate students might be having challenges that are unique to a particular academic discipline. This study therefore explores the poor performance by 1.1 ZOU Agriculture students in Mashonaland west region.

3.0 RESEARCH OBJECTIVES

The study sought to:

- Determine factors influencing poor performance by level 1.1 ODL Agriculture students at ZOU.
- Examine the effects of poor student performance on the Agriculture department at ZOU.
- Suggest solutions to poor performance by level 1.1 ODL Agriculture students at ZOU.

4.0 THEORETICAL FRAMEWORK

This study was informed by two substantive theories namely the Systems theory (input-output theory) and Dewey's theory of Experiential learning.

4.1 The Systems theory

The Systems theory was propounded by Ludwig Von Bertalanffy in 1956. According to Robbins (1980), the Systems theory recognises that a change in any factor within the organisation has an impact on all other organisational or subsystem components. Thus, the inputs and the processors should function well in order to achieve the desired outcome or output. Saleemi (1997) and Robbins (1980) argued that all systems must work harmoniously to achieve the overall goals. The Systems theory assumes that students with better socio-economic background perform well if the university facilities, the lecturers and the management of the university are well organised and therefore perfect. However, it is rare to find perfect lecturers, institution and management in universities. The Systems theory hypothesises that an organised enterprise does not exist in a vacuum, but it is dependent on its external environment (Koontz and Weirich, 1988). The enterprise receives the inputs, transforms them and exports the output to the environment (Koontz and Weirich, 1988). In this research, the university enrolls the ODL Agriculture students (inputs) and then transforms them through the teaching and learning process and the output is finally reflected by students' academic performance (Hanushek, 2007; Stinebrickner and Stinebrickner, 2007).

4.2 Dewey's theory of Experiential learning

The supporting theoretical framework in this study was based on Dewey's theory of Experiential learning and scientific investigations in the classroom (Knobloch, 2003). The Experiential teaching and learning approach has been used in a variety of settings where

participants learn through active participation, reflecting upon the experience, and connecting it with related theory to create behaviour change (Sibanda, Hulela and Tselaesele, 2016). In this research, the theory relates to the practical nature of Agriculture as an academic programme requiring students to be exposed to the anatomy and physiology of farm animals as well as that of crops. The students should also understand the nature, chemical composition and properties of agricultural soils as well as appreciating the micro and macroeconomics of Agriculture. The Experiential teaching and learning cycle models are made up of a one to a six-step model. The classic model proposes that learning consists of four interdependent concepts such as concrete experience where learners engage with the world through direct experiences, reflective observation where learners taking serious consideration and meditation, abstract conceptualization where learners make a transition from the experience to creating a plan for future actions and lastly active experimentation where the learners test the plan by implementation (Kolb's, 1984).

The theory of Experiential learning is also based upon the practical nature of the subject which engages hands-on and scientific practices when studying Agriculture (Edelson, 1997). This implies that Agriculture students should be exposed to resolving real life problems in the field and laboratory experiments in order to have a better understanding of Agricultural concepts. Experiential learning principles in this theoretical framework assumes that learning prepares students to improved performance, high application, positive attitudes and careers in the field of Agriculture (Edelson, 1997). The theory clearly postulates that the teaching and learning of Agriculture should be based on concrete experiences which should contribute positively to students' performance (Sibanda, Hulela and Tselaesele, 2016).

5.0 LITERATURE REVIEW

5.1 Factors influencing poor performance by ODL Agriculture students

Poor academic performance by students in ODL institutions presents a major challenge in endeavours to produce outstanding academic output (Risenga, 2010). Since Agriculture belongs to a science discipline, the factors that influence poor performance in science disciplines in ODL cannot be alienated from the factors that affect poor academic performance by Agriculture students.

The factors influencing student performance in ODL where science programmes are offered are classified into two categories namely the academic factors and non-academic factors

(Laurel, Wong, Chan, and Safiyyah, 2008). The academic factors include teaching methods, teaching approaches, efforts towards self-learning, and student previous academic results. Tinto (1993) also indicated two main factors that affect student academic performance in ODL namely the intrinsic (institutional related) and extrinsic (student related). (2008), the factors that affect poor performance are closely linked to the factors that were also identified by Risenga (2010). Risenga (2010) identified two major factors that influence poor performance namely the exogenous and endogenous factors. The exogenous factors are the issues that Laurel *et al.* (2008) described as academic as academic factors while endogenous factors are the issues that were described as non-academic factors. The study focuses on both academic and non-academic factors that affect student performance in ODL.

5.1.1 Exogenous factors

Science students' academic performance is affected by academic or exogenous factors (Risenga, 2010; Laurel *et al.*, 2008). Performance attributes that were perceived to be exogenous to students include support by the lecturers, activities related to registration and delivery of learning materials. It also encompasses programme content, teaching and learning methods, assignments, examinations, efforts towards self-learning and other student support-related activities (Risenga, 2010)

5.1.1.1 Lack of lecturer support

Academic support by science lecturers is of paramount importance in enhancing students' performance in an ODL setting. The contemporary availability of Information and Computer Technology (ICT) in both developed and developing countries enable lecturers to use the technology in teaching and learning of science modules. As such, lecturers should introduce students to social academic groups such as the online discussion forums. Most ODL institutions expect lecturers to interact mainly by means of online technological tools in order for them to effectively teach and be able to achieve the intended learning outcomes (Alvarez *et al.*, 2009). However, this is not the case with the majority of ODL science teaching institutions in the developing countries. The academic performance of the ODL science students is therefore compromised when lecturers and the ODL students do not actively interact (Alvarez *et al.*, 2009).

Tait (2003) reported low success rates in ODL programmes of the University of London (UL), which was attributed to a lack of learner support by the lecturers. Vergidis (2004) noted a plethora of issues which includes lack of additional support in the form of academic

guidance and information prior to registering and enrolment, lack of support from faculty, and difficulty in contacting the faculty are other factors that have been perceived to negatively influence students' performance in ODL (Vergidis, 2004)

5.1.1.2 Lack of funding of science disciplines in ODL

The reduction in government funding particularly in state owned universities, has resulted in universities adopting the business model where the students become university customers. The need for finance has in turn resulted in the lowering of student basic entry qualifications into ODL in most academic disciplines (Mohamedbhai, 2008) including Agriculture. Since there are no perfect institutions, the teaching and learning activities may not adequately transform the input (low quality ODL students) thereby resulting in the production of a lower grade output which is manifested in poor student academic performance. The academic output is also of poor quality because science programmes in struggling economies will be composed of a combination of students with varying cognitive abilities and the major consideration is their capacity to pay university fees (Mapako et al., 2012).

The high cost of teaching facilities for science disciplines such as the software and the licences are also challenges to instructional delivery of science modules that are offered by ODL institutions in developing countries. The software for teaching and learning of science are established in the developed countries and are customised to suit the environments in the countries of origin. This makes the science software inappropriate and unadaptable to developing countries (Lugoma, 2017). This therefore implies a higher cost of teaching and learning of science disciplines compared to the non-scientific disciplines in ODL.

In some ODL study centres in Africa, there is lack of physical infrastructure to accommodate laboratories for science disciplines (Pityana, 2009). As such, effective teaching of science programmes is constrained by the lack of facilities thereby resulting in poor academic performance (Mukwambo, 2016). Thus, agriculture in ODL like other science disciplines is also not spared from the lack of physical infrastructure to enhance effective teaching and learning.

5.1.1.3 Teaching methods

The ability of ODL students to perform well in their studies is influenced by the various teaching and learning methods that are used in the teaching and learning of science disciplines (Musingafi et al., 2015). In the majority of the ODL institutions in developing countries, print media dominates the delivery of learning materials to students (Butcher,

2003) including the science disciplines despite the critical role that hands-on activities play in the teaching and learning of science disciplines (Bhukuvhani et al., 2012). However science students find it more challenging to learn science without any exposure to Experiential activities thereby resulting in poor academic grades (Miller, 2004). In developing countries, it is difficult to expose ODL science students to laboratory practical sessions (Musingafi et al., 2015). Multimedia online resources can also be used to complement the traditional laboratory methodologies thereby stimulating effective teaching and learning and a subsequent good performance of science students in ODL (Bhukuvhani et al., 2012). However, in developing countries, home experiments using common household materials and equipment also known as kitchen chemistry have been used as an alternative to laboratory experiments (Fenollar et al., 2007). Thus, the lack of a pragmatic approach to teaching and learning of science programmes implies that the students will only acquire abstract concepts instead of concrete knowledge. Therefore the absence of better resourced ODL institutions and lower cognitive development creates challenges for effective teaching and learning of science programmes such as Agriculture.

Amongst the students themselves, there is a general perception that science disciplines such as Chemistry, Physics, Biology and Agriculture are difficult (Dadigamuwa and Senanayake, 2012). According to Dadigamuwa and Senanayake (2012), the majority of the science students and more particularly ODL students were concerned about the difficult subject content and too much module content which they perceived as the major attributes of poor academic performance. Science programmes have been regarded as challenging modules in conventional education and thus even more challenging in ODL (Pityana, 2009). Science programmes require higher level of transformations in knowledge, skills and attitudes compared to other fields of study (Nimbalkar, 2004). Thus, science modules by their very nature demand a higher level of determination on the part of students while the lecturers need to play their part by adequately supervising, guiding and assisting students especially in ODL. Agriculture students in ODL are therefore not exempted from the need for additional supervision, assistance and guidance when studying in an ODL setup.

5.2.1 Endogenous factors

Endogenous factors were also described as the non-academic factors (Laurel et al., 2008). Endogenous attributes to students' performance were perceived as students' cognitive abilities to understand the module contents and student's ability to effectively plan and

complete their studies (Risenga, 2010). Student individual, socio-economic, psychological, environmental and situational factors affect their performance in ODL (Hijazi and Naqvi, 2006). Musingafi *et al.*, (2015) and Fakude (2012) cited factors that affect student performance in ODL across academic programmes.

5.2.1.1 ODL student's self-efficacy

ODL students can be divided into two groups namely adult students and young high-school graduate students also known as school leavers (Wilson, 1997). The adult students are those people who have left school several years ago. Although these adult students are self-motivated to continue their studies, they may not have adequate self-confidence to complete their studies in an ODL system. According to Bandura (1986), in his self-efficacy theory, people's judgement of their proficiency to organise and perform a module of action required to attain certain output determines their motivation, choice of academic degree programme and performance. ODL student's self-efficacy has a positive influence on mastery of goals (Bong, 2001). Students who believe they are able and will do well are much more likely to be motivated in terms of effort, persistence and behaviour than those who believe they are less able (Bong, 2001). Therefore high self-efficacy will encourage a student to pursue challenging personal goals and spend much effort to realise their goals, thereby exhibiting high academic performance. Thus, low self-efficacy result in lower effort and persistence and hence poor academic performance (Bong, 2001). Thus, age and maturity levels may affect academic performance of ODL students.

5.2.1.2 Students lack of knowledge of ODL delivery mode

Besides age and level of maturity, students' misconception of ODL is one of the reasons for poor performance in distance learning. Some students choose academic programmes in distance learning without carefully preparing themselves to adjust to the ODL system of teaching and learning. Most students undermine the fact that the study programmes in ODL need various soft skills such as high level of commitment, good time management, and a team spirit (Dadigamuwa and Senanayake, 2012). As such, some students who select science programmes because of just a mere credit may fail in ODL (Dadigamuwa and Senanayake, 2012). Instead, there is need for adequate prior knowledge on ODL delivery mode coupled with the necessary background subject knowledge in order for the students to excel in their studies.

5.2.1.3 Socio-economic factors affecting ODL students

The majority of the ODL students have neither a personal computer nor ICT skills which are critical for effective distance learning in universities. This problem can result from financial challenges, unemployment and a lack of proper orientation before embarking on an ODL programme (Ebabhi and Olubiyo, 2016). In addition, financial challenges make it difficult for students to attend practical classes despite the availability of co-ordinated practical sessions in some ODL institutions (Ebabhi and Olubiyo, 2016). Lack of finance also hinders students from attending weekend tutorial sessions regardless of the availability of the weekend tutorials (Musingafi et al., 2015). Although previous studies have generalised the financial challenges and high rates of unemployment particularly amongst ODL students in the various faculties (Mokoena, 2013; Musingafi et al., 2015), first year ODL Agriculture students are likely to be equally affected by these challenges thereby resulting in poor academic performance.

5.2.1.4 High poverty levels of ODL students in developing countries

High poverty levels in developing countries results in inaccessibility to available technologies at the disposal of ODL students which therefore hinders effective teaching and learning in ODL. Although academic institutions have invested substantial resources in e-learning technologies, the benefits of such a system will not be realised if students do not have their own electronic devices, if they fail to use the e-learning technology or if the system is not user-friendly (Lin, 2007). Thus additional requirement for internet results in additional costs which ODL students may not be able to cope with (Obabhi and Olubiyo, 2016). In the end, the students rarely interact or communicate with peers, they also fail to access study material online and this eventually affects their academic performance (Maboe, 2017).

5.2.1.5 Situational challenges

There are many situational challenges which include issues to do with sickness in the family, death and untimely loss of employment all of which can affect the performance of ODL students (Morgan, 1999). Ashby (2004) also alluded to the fact that ODL students are overwhelmed by the demands of employment, needs of dependants, time and work pressures, geographical location, and personal problems such as balancing ODL with other family obligations.

5.2 Effects of poor performance in Agriculture by ODL students

5.2.1 Low student retention

Jones (2009) defines student retention as “... the act of retaining or keeping students on the programme until its natural conclusion or until they have achieved their academic goals.” Low retention rates within institutions of higher learning can be an indicator of poor academic performance and may damage the reputation of the academic programme and the institution (Chakuchichi, 2011). As a way of maintaining good reputations of ODL institutions, there is need to identify the challenges that are faced by students and suggest lasting solutions to the challenges. According to Tinto’s Model, student withdrawal process depends on the way students interact with the social and academic environment of the institution. This therefore implies that poor interaction with the institution, poor quality learning material and poor quality lecturer translates to a subsequent high failure rate which results in student withdrawal from an academic programme. Low student retention remains a serious challenge for students studying science through ODL (Fozdar and Kumar, 2006). However, some of the students who withdraw from universities with a general mandate end up finalising their studies at universities with specific mandates such as Science and Technology universities (Fozdar and Kumar, 2006). This means that science and technological infrastructure may be one of the perceived limiting factors to student success in the learning of science programmes through ODL. In a BSc programme that was offered by Indira Gandhi National Open University (IGNOU), it was found out that the major reason leading to students’ high failure rate and the decision to withdraw from the university was the difficult nature of science programme (Fozdar and Kumar, 2006). Thus, when students find some modules to be difficult, the closest option for them is to withdraw from the programme. Programme related issues like workload and difficulty are the issues that might compel ODL students to withdraw from ODL science programmes. Students’ mistaken belief that ODL modules are easier also results in withdrawal from the ODL programme when they experience difficulties that are associated with science disciplines (Carnevale, 2000). Previous research in an Indian Open University which examined students’ experiences in one of the science disciplines offered by the university, it was revealed that the students spent more time studying the module materials than they expected before enrolling for the programme (Garg, Vijayshri and Panda, 1992). Although the study focused on students’ experiences in one science discipline, the issue of excess study content is a likely contributory factor to high student dropout rates in other science disciplines such as Agriculture.

5.2.2 Longer duration to complete an academic programme

Numerous researches have revealed high proportions of ODL students who fail to complete their degree programmes within the expected time period (Abidin, Ismail and Ismail, 2011). Despite the general failure to complete academic programmes by ODL science students (Abidi, Ismail and Ismail, 2011), Agriculture students can also be affected since they are exposed to similar socio-economic, academic and non-academic challenges that affect the duration of their studies. These students are therefore affected by late programmes completion as a result of failure of some first year modules which are a prerequisite to subsequent modules in the academic programme (Musingafi *et al.*, 2015; Zinyama and Ndudzo, 2015). This results in students taking longer than the expected module duration because of repeating or carrying some first year modules.

6.0 METHODS

This case study employed mixed methods to triangulate quantitative and qualitative data collected using semi-structured questionnaires from a simple random sample of 24 undergraduate students who had gone through level 1.1 in which the modules Anatomy and Physiology of Farm Animals, Introduction to Soil Science, Plant Physiology and Introduction to Agricultural Economics were taught and by interviewing both a census sample of four lecturers who had taught first year Agriculture modules at the Mashonaland West Regional Campus as well as three conveniently sampled members of the Regional Academic Registry Department. Secondary data were yielded from purposefully selected student and administrative documents. Quantitative data were then analysed using computerised data analysis software, Statistical Package for Social Science 20.0, while qualitative data were analysed thematically by identifying commonly recurring and prevalent themes which assisted in answering the research questions.

7.0 RESULTS AND DISCUSSION

7.1 STUDENTS CHARACTERISTICS AS CAUSES OF POOR PERFORMANCE IN ODL AGRICULTURE AT LEVEL 1.1

7.1.1 Gender of the respondents

The majority of the respondents (67%) were females while 33% of the respondents were males. Peebles (2014) found that more females are enrolled in tertiary education than their

male counterparts as the women perceive educational opportunities as their means to a better future and thus are willing to advance their educational or professional qualifications. In a related study that was conducted at one of ZOU’s regional campus, there was a similar trend of a higher female enrolment in ODL compared to males (Zinyama and Ndudzo, 2015).

7.1.2 Age of students

The respondents of this study were mainly adults whose age ranged from 21 to 50 years. There were no students who were aged below 20 years and above 50 years. The age group with the highest number of respondents was the 31 to 40 age group which comprised 54.5% of the total respondents. The age distribution of the respondents is entirely made up of adults since the ODL mode of delivery provide them with the opportunity to learn while at the same time executing other endeavours or even staying at home (Msoffe, 2016). In addition ODL mode of learning provides adults with freedom to choose whether to sit for an examination or to postpone studies until the next academic year compared to conventional universities (Msoffe, 2016).

7.1.3 Students’ academic qualifications

The majority of the respondents had certificates in the field of agriculture while those with Higher National Diplomas (HND) and Diplomas were fewer. The respondents who were enrolled on the basis of Advanced levels or other qualifications such as the Diploma in Education with Agriculture as the main course were also fewer as shown in Fig 7.1.

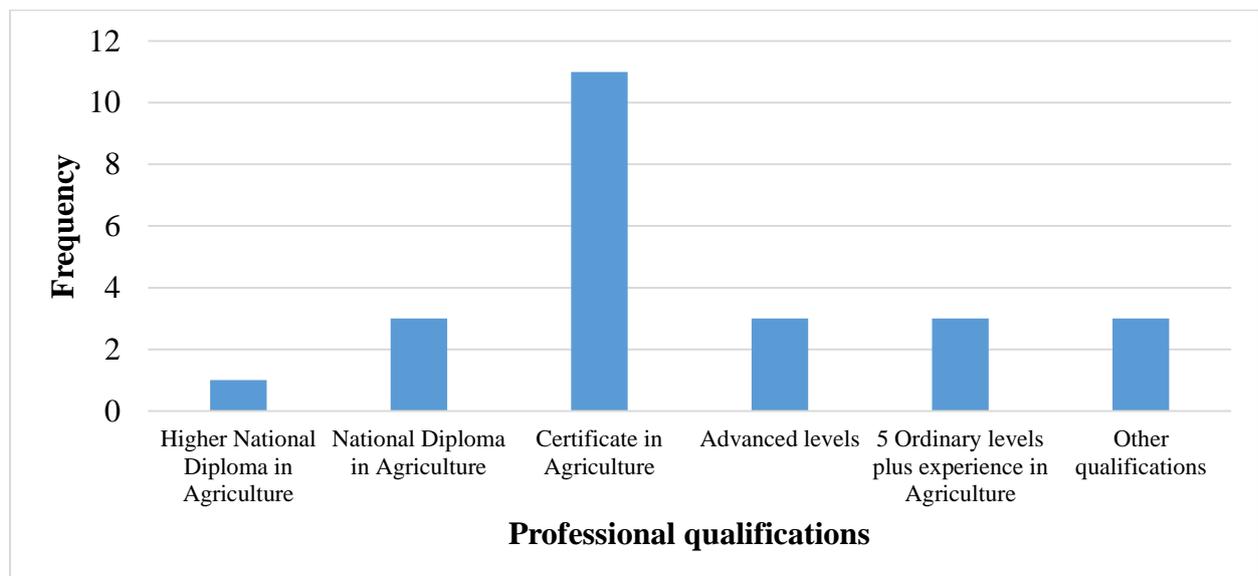


Fig 7.1: Students highest academic or professional qualifications

However, a tutor of level 1.1 echoed the following sentiments with regards to students' highest professional qualifications:

Before the fast track Agriculture training programme that was launched in the country during the beginning of this current decade, the majority of our students had at least a Diploma in the field of Agriculture that was completed over a period of at least three years, but now with these modules that are offered by vocational training colleges (VTC) for six months, the quality of our students has greatly deteriorated.

Although professional qualifications are required as a pre-requisite for admission into BSc Agriculture Management degree according to the ZOU rules and regulations, these prior qualifications may reflect their corresponding academic performance. The findings of this study were also corroborated with the study that was conducted in an Open University of Nairobi, where it was revealed that there was a significant positive correlation between entry qualification and academic performance in science programmes such as Chemistry and Biology (Wambugu and Emeke, 2013). However, in a study that was conducted in an Open University of Nigeria, it was shown that there was no correlation between admission qualification and academic performance of ODL students (Opoko et al., 2014). It therefore implies that entry or admission qualifications do not always translate into successive academic performance.

7.1.4 Student consideration of Agriculture as a difficult academic programmes

The majority (58%) of the respondents considered Agriculture as a difficult academic degree program while 4.2% strongly agreed that Agriculture is a difficult academic degree programme as shown in Table 7.1.

Table 7.1: Student consideration of Agriculture as a difficult academic programme

(N=24)

Response	Frequency	Percentage
Strongly agree	1	4.2

Agree	14	58.3
Not sure	6	25.0
Disagree	3	12.5
Total	24	100

Thus, Agriculture, being a science requires great transformation in knowledge, skills and attitude and is therefore equally difficult just like other science programmes such as Biology, Chemistry and Physics (Nimbalkar, 2004).

7.1.5 Frequency of attending face-to-face weekend tutorials by 1.1 students

More than half of the respondents attended weekend tutorials either once or twice during the semester while 11 students attended all the three scheduled weekend tutorials as shown in Fig 7.2.

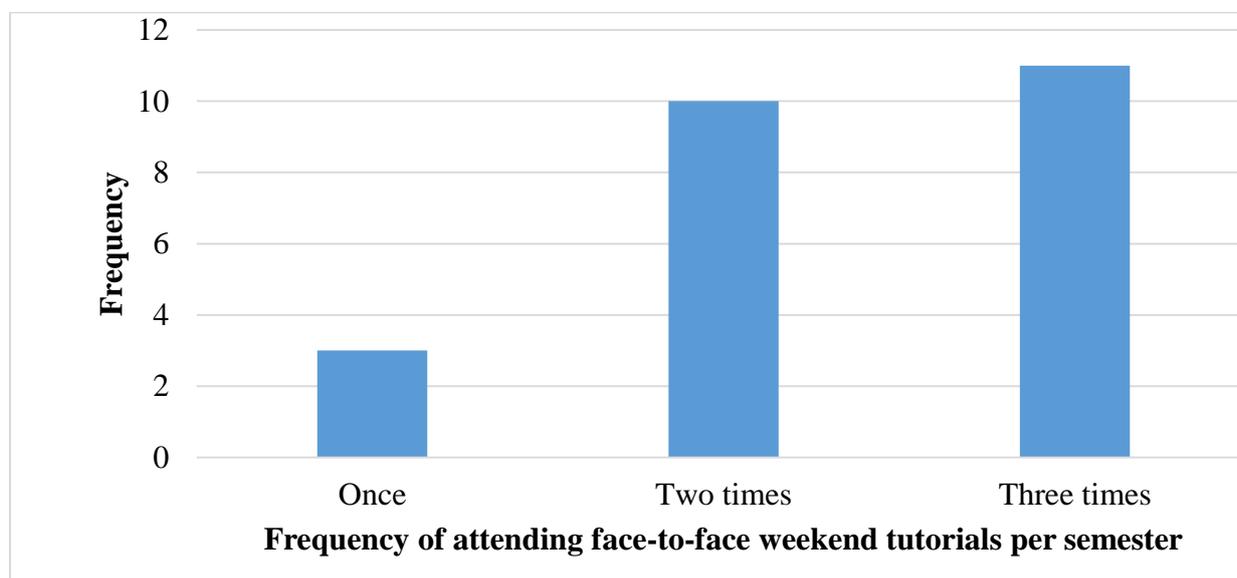


Fig 7.2: Frequency of attending face-to-face weekend tutorials by students

The findings of this study were supported by some comments from one of the tutors who had this to say:

From the time I joined the university as a tutor, it is very rare to find the same students attending all the three scheduled face-to-face tutorials. The number of tutorial attendees' is higher on the final weekend tutorial session. In most cases, I am forced to repeat the content that I would have covered during the first or second face-to-face tutorials. This makes it difficult for me to address some of the challenges students might be facing in assignment writing on the feedback comments because sometimes I feel we have to talk face-to-face with the students so that they understand their problem.

The findings of this study were supported by earlier research which found out that higher performance could be obtained through regular class attendance (Kwenda, 2011). Thus in this study, failure to attend some weekend tutorials could have been a major reason for students poor performance.

7.1.6 Students ability to read all modules before attending tutorials

When asked whether 1.1 students are able to read modules before attending face-to-face weekend tutorials, the majority of the respondents highlighted that they could not read their modules before attending tutorials as shown in Table 7.2

Table 7.2: Students ability to read all modules before attending face-to-face weekend tutorials (N=24)

Response	Frequency	Percentage
Yes	6	25
No	18	75
Total	24	100

When asked the reasons why they are not able to read modules well before the face-to-face tutorials, respondents cited various reasons. Other respondents cited lack of internet connectivity in their areas of residence that hindered them from accessing some alternative module soft copies that are uploaded on ZOU e-learning platform (MyVista). Some of the

respondents who have access to internet connectivity cited some missing module sections on e-learning platform such that they were not able to access some module sections. Other respondents however lacked interest in using module soft copies and still wanted hard copies. The inability to read modules before attending face-to-face weekend tutorials was supported by one of their tutors who had this to say:

It seems most of our students do not understand the concept of ODL. When I go for tutorials, I spend most of my time visiting each and every unit in the module. Instead of tutoring on some difficult concepts in the module, I actually end up lecturing because the majority of the students in my class would be totally clueless in some concepts that I think are easy to comprehend if they read independently. But I have noticed that sometimes it's not their fault because some of them come for tutorial without a module.

7.2 CAUSES OF STUDENTS POOR PERFORMANCE IN ODL AGRICULTURE AT LEVEL 1.1

7.2.1 Factors affecting students poor performance at 1.1

On being asked the factors that influence students' poor performance in 1.1, the participants indicated various challenges which are grouped in Table 7.5 below.

Table 7.3: Factors affecting students poor performance at 1.1
(N=24)

Factors influencing students challenges	Frequency
Exogenous	23
Endogenous	20

The exogenous factors also known as academic factors included issues such as late registration, mistakes during registration, failure to get hard copy modules on time, inadequate orientation on how to tackle assignment and examination questions, lack of informative feedback, inadequate exposure to pragmatic learning activities and late submission of assignments. The tutors noted the importance of continuous orientation of level 1.1 students into ODL even during tutorial sessions as some students may have missed the orientation session that is conducted only once per semester at the regional campus. The academic and non-academic factors that affect student challenges concur with the work of Risenga (2010) and Guney (2009), who noted that the challenges that are faced by students in ODL can be exogenous or endogenous.

The exogenous and endogenous factors of students' high failure rate at 1.1 were further analysed into various interconnected challenges. These are shown in Fig 7.3.

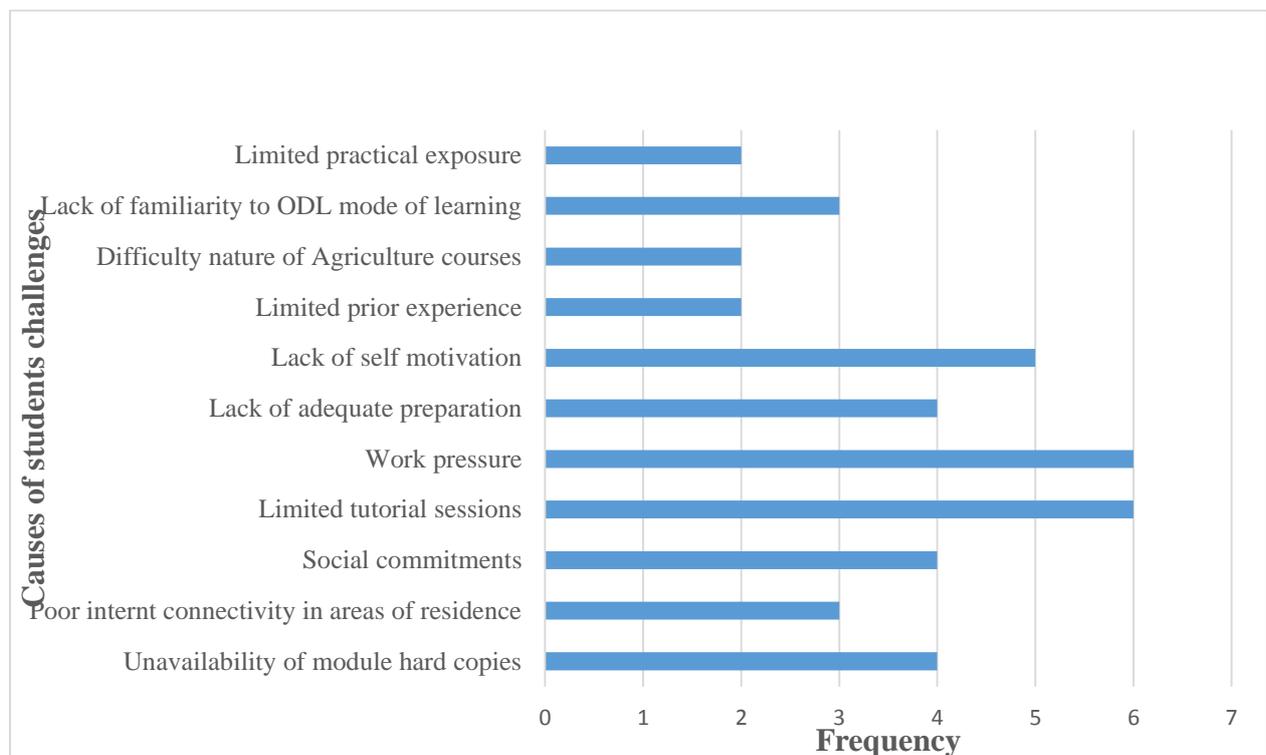


Fig 7.3: Causes of students' high failure rate at 1.1

According to the student responses shown in Fig 7.3, the major causes of the challenges boil down to the socio-economic environment that characterises Zimbabwe. Additional information that has been posted on learning platforms and social groups for discussion were not attended to by the majority of the students as a result of lack of ICT infrastructure in their areas of residence. The findings of the study are in line with the study of Berge *et al.* (2002), Hijazi and Naqvi, (2006) and Laurel *et al.*, (2008) who showed that instructional and personal

factors have important influences on student performance in ODL. As the greatest portion of teaching and learning is realised outside educational institutions in ODL, Hijazi and Naqvi (2006) observed that technical aptitude and availability of technological devices that are needed in order to have effective access to modern ICT is a setback to distance learners. In a study that was conducted at a distance education institution in Canada, the findings of this study support the importance of internet strength to higher achievement outcomes (Bernard et al., 2009). In an Indian Open University, limited tutorial sessions, lack of time to revise student work were found to be caused by changes in family circumstances, changes in employment status and marriage commitments (Fozdar, 2006) thereby affecting student performance at the end of the semester

7.2.2 Students confidence of passing examinations

On being asked whether they were confident of passing their end of semester examinations. The responses of the students indicate that they were already aware of the challenges that they faced that would not allow them to excel such as poor modular marks, demotivating comments from tutors and inadequate preparation for the end of semester examinations.

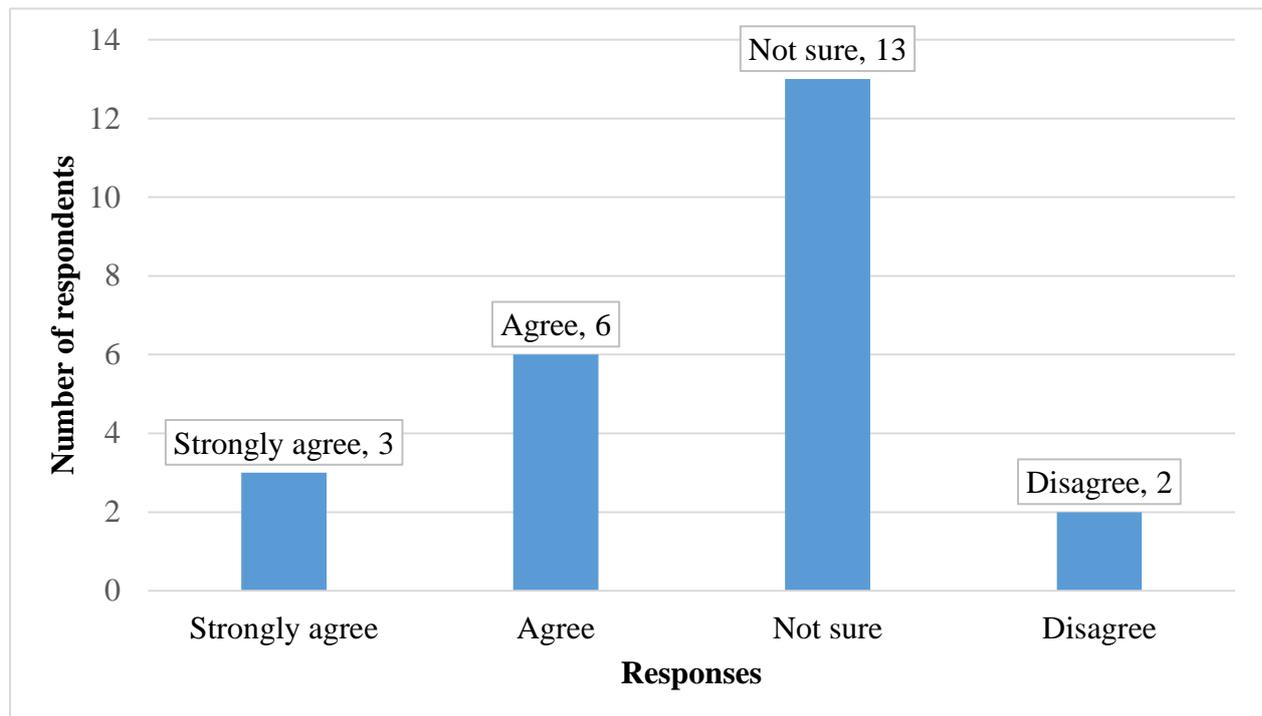


Fig 7.4: Students confidence of passing end of semester examinations

The comments by the tutors who marked the assignments indicated that some assignments have been plagiarized from fellow students while other students had copied chunks of

literature from internet sources most of which were not relevant to the assignment questions. This is a clear indication that the students had not taken time to study on their own, write good assignments thus resulting in poor module marks which contributed towards their end of semester marks. However on some assignment tracking forms, although the students scored low marks, there were no comprehensive and informative comments to indicate where the students went wrong in their assignments.

The results of the regression model shows that $R=0.623$; R square $=0.389$ and adjusted R square $=0.361$ as shown in Table 7.4.

Table 7.4: Regression statistics on the causes of poor performance by 1.1 students in ODL

Model	R	R square	Adjusted R square	Standard error of the estimate
1	.623a	.389	.361	.745

The adjusted R square shows that 36.1 % of the variation in number of modules passed is being explained by the 7 independent variables while 63.9% of the variation in number of modules passed is not being explained by the model but is as a result of other factors that are not mentioned in the regression model used in this study. R is positive showing that there is a positive relationship between confidence level and the number of modules passed.

Table 7.5: Analysis of Variance (ANOVA) showing the effect of students confidence of passing and number of modules passed

Model	Sum of squares	DF	Mean square	F	Sig
1 Regression	7.758	1	7.758	13.990	0.001a
Residual	12.200	22	.555		
Total	19.958	23			

- a. Predictors: (Constant), confidence of passing examination
- b. Dependent variable: poor academic performance

According to the ANOVA shown in Table 7.5 where $F=13.990$. The table also shows that there are significant differences in the number of modules passed at 1% level of significance.

Table 7.6: The regression model showing the effect of students confidence of passing and number of modules passed

Model	Unstandardised coefficient		Standardised coefficient		Sig
	B	Standard Error	Beta	t	
1.(Constant)	5.600	.507		11.050	0.000
Confidence of passing examinations	.700	.187	.623	3.740	0.001

a. Dependent variable (poor academic performance)

The regression analysis model showed that only one factor namely confidence of passing examinations significantly affected the number of modules passed. Based on the study results, the hypothesis which asserts that socio economic factors such as such as age of student, sex of student and highest level of professional qualification significantly affected the number of modules passed by the student was rejected and an exogenous factor which is students' confidence in passing examination had the greatest influence on students' performance.

Prior studies have shown that self-confident or students with a high self-efficacy have a tendency of applying more high-level learning skills such as elaborative critical thinking skills (Wang and Wu, 2008). Early research have shown that students beliefs regarding their capability to execute actions necessary to achieve designated outcomes play a role regarding their performance (Bandura, 1986). Thus, self-confidence, plays important roles in self-regulated learning attitudes such those experienced in ODL. In addition, research also shows that self-efficacy has a strong influence on effort and task persistence, predominantly in the face of difficult tasks (Schunks, 2012).

7.2 EFFECTS OF POOR PERFORMANCE IN AGRICULTURE BY ODL STUDENTS AT LEVEL 1.1

Upon being asked, the possible effects of students failure. The majority of the respondents highlighted high rates of students drop out from the institution as shown in Table 7.7.

Table 7.7: Effects of students failure in level 1.1.

Effects of students failure	Frequency
High rates of student dropouts	15
Failure to finish program in time	11
Lower quality degree class	2
Changing academic degree program	1

The findings of the study shown in Table 7.7 also show that failure in level 1.1 resulted in students taking a longer period before finishing their degree program. Some respondents cited that failure at level 1.1 compromises their degree class even if the students perform well in the successive semesters. However, one of the respondents cited a change in the academic program as a result of failure at level 1.1 (Table 7.7).

Students' responses were line with the responses of a tutor who teaches both level 1.1 and level 1.2 students who had this to say:

Usually the introductory module that I teach in level 1.1 class has a higher number of students but what surprises me is that in most cases, my level 1.2 class has less than half of the students that I would have taught at level 1.1. I am not sure where the rest of the class would be.

The comments by a tutor were in agreement with the comments by a regional registry clerk who had this to say:

According to our registration statistics, student numbers particularly of the BSc in Agriculture Management drop in the second semester. The number of students that are registered in the second semester are usually half of those who register in the initial semester of study at the ZOU.

The findings of this research concurred with the study that was conducted at the Indira Gandhi National Open University (IGNOU), which showed high levels of student drop out

after the first semester of studying a science module through DE. In a related study, Williams and Media (2013) argued that poor academic performance at tertiary result in high levels of attrition which ultimately reduces graduate output thereby increasing the cost of training a nation's labour force by individuals as well as governments in state funded programme. Thus, the majority of the students do not necessary complete BSc Agriculture Management degree in the prescribed eight semesters which constitute the duration of the BSc Agriculture Management degree.

8.0 CONCLUSIONS

From the study findings, it can therefore be concluded that:

- Exogenous and endogenous factors played a significant role in influencing students' performance.
- Lack of a pragmatic exposure that would enable easier comprehension of critical science concepts, limited prior experience in the field of agriculture, students' misconceptions about ODL education and lack of familiarity with the ODL mode of learning also affected students' academic performance.
- Although endogenous factors such as self-confidence played a highly significant role in influencing poor performance by 1.1 students, the interconnection between the endogenous and exogenous factors exacerbates the problem of poor performance.
- Endogenous factors which are a result of the social and economic backgrounds of the students may inhibit student access to some exogenous services that affect their academic performance at the end of the semester.
- As a result of poor performance by level 1.1 students, the study revealed high rates of student drop outs, longer duration of the programme, postponement, deferment of studies and a change in academic programme, leaving the department with fewer students.
- The resultant low enrolment of students in the department of Agriculture in the subsequent semester is however a result of mainly economic challenges and social responsibilities where the students feel that they will be wasting more family resources by continuing with the study in case they fail again after repeating or carrying failed modules into the subsequent semester.

- On the other hand, the ZOU encourages student drop outs as a result of unavailability of supplementary examinations which can offer the students with another opportunity to write failed modules than carrying the modules into the next semester.

9.0 RECOMMENDATIONS

From the findings of this study, it is recommended that:

- Tutors in the Agriculture department should play a critical role in intrinsically motivating 1.1 students during face-to-face tutorial sessions on assignment feedback comments as well as in the social media groups to boost student confidence of passing all the modules.
- The ZOU should ease student socio-economic burden through delivering hard copy modules for all first year modules well before the beginning of each semester so that the students have some learning materials before attempting assignments and well as before attending face-to-face tutorials.
- Alternatively, the full sets of modules should at least be uploaded on the e-learning platform (MyVista) such that those who have a high technology aptitude are able to access the learning material on time despite late delivery of some hard copy modules.
- The ZOU should also consider increasing the number of tutorial sessions for science programmes that need students to be able to convert abstract concepts into concrete knowledge that can be mastered by the students during summative assessments within the semester and thereafter. Using these instructional approaches, students will interact with the setting and exhibits thereby gaining an experiential connection to the ideas, concepts and subject matter.
- The ZOU should introduce supplementary examination in order to reduce the duration of the study period for those who fail level 1.1 modules.
- Further research should be conducted on the causes of poor performance by considering other socio-economic factors in other science disciplines in ODL or even conventional universities in developing countries.

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Academic Performance in Undergraduate Science Modules at the University of Nairobi, Kenya

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