

**THE POTENTIAL OF EXPERIENTIAL LEARNING IN SKILLING OF  
AGRICULTURE STUDENTS: THE CASE OF BUKALASA AGRICULTURAL  
COLLEGE**


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UNIVERSITY**

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### Declaration

I, Oguzu Evans, declare that the work presented in this thesis is mine. It has never been presented to any other university or institution. Where other people's works have been used, references have been provided, and, quotations made.

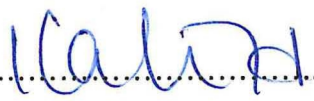
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## Approval

We confirm that the work in this thesis was carried out by the candidate under our supervision as university supervisors.

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## **Dedication**

I dedicate this thesis to my family and friends. A special feeling of gratitude to my parents, Late Agobia Andrew (RIP) and Anduru Janet, my wonderful daughters Asiomizu Patience, Taliru Liv and Katah Evans for being there for me throughout the entire Master's program. I also dedicate this thesis to my friends who have supported me throughout the process. I will always appreciate your efforts.

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## Table of Contents

|   |     |
|---|-----|
| Declaration .....                                       | i   |
| Approval.....   | ii  |
| Dedication .....  | iii |
| Acknowledgement.....                                    | iv  |
| Table of contents .....                                 | v   |
| List of tables.....                                     | x   |
| List of figures.....                                    | xi  |
| List of Abbreviations and Acronyms.....                 | xii |
| Abstract.....   | xii |
| i   |     |
| CHAPTER ONE.....  | 1   |
| INTRODUCTION.....                                       | 1   |
| 1.1 Overview .....                                      | 1   |
| 1.2 Background to the study .....                       | 1   |
| 1.3 Statement of the problem .....                      | 6   |
| 1.4 Purpose of the study .....                          | 7   |
| 1.5 Objectives of the study.....                        | 7   |
| 1.6 Research questions .....                            | 7   |
| 1.7 Scope of the study .....                            | 8   |
| 1.8 Conceptual framework.....                           | 8   |
| 1.9 Significance of the study.....                      | 9   |
| 1.10 Justification of the study .....                   | 10  |
| 1.11 Motivation for the study.....                      | 10  |
| 1.12 Limitations .....                                  | 11  |
| 1.13 Operational definitions of terms and concepts..... | 11  |

|  |    |
|--|----|
| CHAPTER TWO.....   | 12 |
| REVIEW OF RELATED LITERATURE.....  | 12 |
| 2.1 Introduction.....  | 12 |
| 2.2 The theoretical frame work.....  | 12 |
| 2.3 Experiential learning in agricultural education and competence development. ....           | 14 |
| 2.4 Skills required by employers of agricultural graduates .....                               | 15 |
| 2.5 Modes of content delivery used in training .....   | 16 |
| 2.6 Perception of students towards experiential learning approach.....                         | 20 |
| 2.7 Benefits of experiential learning .....  | 21 |
| 2.8 Experiential learning approaches .....   | 22 |
| CHAPTER THREE.....   | 25 |
| METHODOLOGY .....  | 25 |
| 3.1 Introduction.....  | 25 |
| 3.2 Research design .....  | 25 |
| 3.3 Respondent selection.....  | 25 |
| 3.4 Respondent size and selection .....  | 26 |
| 3.5 Sampling procedure used.....   | 26 |
| 3.5.1 Purposive sampling .....   | 26 |
| 3.5.2 Stratified random sampling.....  | 26 |
| 3.5.3 Snow ball sampling .....   | 27 |
| 3.6 Data collection .....  | 27 |
| 3.6.1 Expectations of the employers regarding agricultural graduates.....                      | 27 |
| 3.6.2 Modes of content delivery used in the training of students at BAC .....                  | 27 |
| 3.6.3 Perceptions of the current and past students towards the training approaches at BAC..... | 28 |
| 3.7 Data quality management .....  | 28 |

|  |  |    |
|--|--|----|
| 3.8  | Data analysis .....  | 29 |
| 3.9  | Ethical considerations .....   | 29 |
| CHAPTER FOUR .....   |  | 30 |
| RESULTS AND DISCUSSION .....                               |  | 30 |
| 4.1  | Introduction.....  | 30 |
| 4.2  | Respondents' demographic profile .....   | 30 |
| 4.3  | Skills required by employers of agricultural graduates. ....                                 | 30 |
| 4.4  | Modes of content delivery used in the training of students.....                              | 38 |
| 4.5  | The perceptions of the current and former students towards the training approaches used..... | 43 |
| 4.5.1  | Training and learning activities .....   | 43 |
| 4.5.2  | Instructional materials .....  | 45 |
| 4.5.3  | Organisation of training activities.....   | 47 |
| 4.5.5  | Students evaluation of the assessment of processes at BAC. ....                              | 51 |
| CHAPTER FIVE .....   |  | 54 |
| SUMMARY, CONCLUSIONS AND RECOMMENDATIONS .....             |  | 54 |
| 5.1  | Summary .....  | 54 |
| 5.2  | Conclusions.....   | 55 |
| 5.3  | Recommendations .....  | 55 |
| 5.4  | Areas for further studies.....   | 56 |
| References .....   |  | 57 |
| Appendices.....  |  | 65 |
| Appendix 1: Interview schedule for the administrators..... |  | 65 |
| Appendix 2: Interview guide for employers.....             |  | 66 |
| Appendix 3: Interview guide for lecturers.....             |  | 68 |

|   |    |
|---|----|
| Appendix 4: Questionnaire on perception of current and past students towards training approaches at BAC in relation to experiential learning..... | 69 |
| Appendix 5: Observation checklist .....   | 72 |



## **List of tables**

|  |    |
|--|----|
| Table 3.1 Respondent size .....  | 26 |
| Table 4.1: Students perceptions about the training activities at BAC .....                   | 43 |
| Table 4.2 Students perceptions on the use of instructional materials at BAC.....             | 45 |
| Table 4.3: Students responses on the organisation of the training activities at BAC.....     | 47 |
| Table 4.4: Students perceptions on the role of lecturers during the training activities..... | 49 |
| Table 4.5: Students evaluation of the assessment processes of at BAC .....                   | 51 |

**List of figures**

Figure 1.1: Conceptual framework ..... 8

### **List of Abbreviations and Acronyms**

|               |  |
|---------------|--|
| <b>BAC</b>    | Bukalasa Agricultural College                                    |
| <b>BTVET</b>  | Business, Technical and Vocational Education and Training        |
| <b>IT</b>     | Industrial Training  |
| <b>MVP</b>    | Masters in Vocational Pedagogy                                   |
| <b>NCDC</b>   | National Curriculum Development Centre                           |
| <b>SPSS</b>   | Statistical Package for Social Scientists                        |
| <b>UNESCO</b> | United Nations Educational, Scientific and Cultural Organization |
| <b>WBL</b>    | Work Based Learning  |

## **Abstract**

The study was carried out to investigate the potential of experiential learning approaches in the training of agricultural graduates at Bukalasa Agricultural College (BAC). It was guided by four objectives: to investigate the skills required by employers of agricultural graduates, to characterize the modes of delivery used in the training of students at BAC in relation to experiential learning, to examine the perceptions of students towards the training approaches at BAC in relation to experiential learning and to determine the best options in training approaches at BAC in relation to experiential learning. The study used a descriptive study design taking both qualitative and quantitative approaches based on 50 respondents which comprised of the employers, teaching staff, the graduates and continuing students. These were selected using purposeful and stratified random techniques. Data was collected using interviews, observation and questionnaires. The qualitative data was analysed by coding while the quantitative data was analysed in descriptive statistics using Statistical Package for Social Scientists (SPSS version.17.0). Results indicated the following are the skills required by the employers; administering treatment to sick animals, feed analysis and mixing, nursery bed management, communication skills, leadership skills, and interpersonal skills. Responses from the employers show that the newly recruited agricultural graduates lack the following skills; value chain management skills, artificial insemination skills, leadership skills, critical thinking skills, interpersonal skills and financial management skills. The commonly used mode of delivery during the training was the lecture method. Other modes of delivery used include demonstration, experiments and students projects. The findings revealed that the instructional materials used were inadequate. The study concluded that experiential learning has potential to improve the skill acquisition of the students if it is well planned and monitored by both the lecturers in the tertiary institutions. The study recommends that BAC should continue and reinforce the experiential learning approaches to training based on the positive impact expressed by respondents of this study hence the college should try to implement more experiential learning activities into their daily training activities to increase students ability to learn hands-on skills so that they may be able to use the skills in their future careers and academic advancements.

# CHAPTER ONE

## INTRODUCTION

### **1.1 Overview**

In this study, the researcher investigated the potential of experiential learning in skilling of agricultural students. This chapter presents background to the study, an analysis of vocational pedagogy and experiential learning, statement of the problem, purpose of the study, specific objectives, scope of the study, justification, significance, and limitations of the study and definition of key terms.

### **1.2 Background to the study**

Employers face increasing challenges of rapid technological advancements. This in turn has necessitated fundamental changes in orientation towards training in skills that are needed most by the employers (Camp, Clarke and Fallon, 2000). Agricultural students enter training institutions with the expectation that they will acquire the knowledge, the skills, and the abilities to enter the workforce (Cheek, Arrington, Carter and Randell, 1994). According to (Esters and Nicola, 2009) agricultural graduates expect that they will have acquired the skills necessary to perform their jobs and advance their careers. In the modern knowledge economy, employers have an expectation that a college education will provide agricultural graduates with the skills required to perform their jobs (Bok, 2006). How successful are the higher educational establishments in delivering agricultural graduates with skills that match what the employers are asking for is a question that demands attention? Hence the need to explore the potential of experiential learning in skilling agricultural graduates for the world of work.

According to UNESCO (2012) the skilling of agricultural graduates is an important contributor to agricultural development in developing countries. Agricultural graduates are entering the workforce without the skills needed for career success (Atkins, 1999; Peddle, 2000). A discrepancy exists in the types of skills taught at agricultural training institutions and those that are demanded in employers (Andrews & Wooten, 2005). Atkins (1999, p. 271) reported that “there is currently a skills gap between what employers need and what agricultural training institutions are producing”. Evers et al. (1998, p. 16) echoed that “the skills most in demand are least in supply”. Fuhrmann and Grasha (1983) concluded that agricultural colleges could better meet the needs of their students by adjusting how and what they teach. Therefore, higher education must assess its curriculum and evaluate its purpose in helping students attain skills needed by employers. Shivpuri and Kim (2004) suggested that higher education should listen to the needs of its stakeholders in industry.

Experiential learning is an important component of Vocational Pedagogy for developing the competences required of graduates in vocational trades. Experiential learning is learning derived from experiences. Experience is a crucial factor in the development of knowledge, skills and values required in the world of work.

Furthermore, a number of educationists have argued that teaching should not be restricted to simple dissemination of knowledge but should be focused on “the passing on of knowledge such as preparation for working life, learning how to learn, and the internalisation of value systems and culture” (Baruch, 2006, p. 43). As such, lectures may

not be well suited to teaching higher order skills, such as application, analysis, synthesis, or evaluation which is needed in the world of work. This has led to a re-evaluation of the lecture method as a whole (Read and Kleiner, 1996; Baruch, 2006). For agricultural training the impetus for change is particularly intense. This is due to the fact that students do not simply need to learn about an established body of knowledge, but also how to practically apply new ideas or knowledge is very important (Nicholson, 2000, p. 45).

However, research suggests that incorporating experiential teaching methods in training like agricultural training modules may also be beneficial (Fish, 2007). Over the last decade, agricultural training has seen an increased use of experiential teaching methods (Hayes and Reynolds, 2005). These approaches involve activities where students actively engage in an activity or event (O'Malley and Ryan, 2006). Examples include simulations, industrial trainings, student's projects, experiments and case studies. These examples share a key distinguishing feature when compared to traditional teaching methods; they are based on students generating knowledge by experiencing things first-hand, rather than by hearing about other's experiences (Feinstein, Mann, and Corsun, 2002).

Within agricultural education, the application of experiential learning approach has become increasingly popular (O'Malley and Ryan, 2006). It is argued that the inherent complexity and non-mechanistic interactions that exist within the discipline may make experiential teaching methods particularly appropriate for student learning and skills acquisition (Holman, 2000). Experiential teaching methods have proven to be very useful

in conveying subject information to students and in helping improve their ability to apply theories into practice (Pfahl, Laitenberger, Ruhe, Dorsch, and Krivobokova, 2004)

In addition, there is evidence suggesting that such experiential learning can help develop higher order skills which are demanded by the employers beyond the specific, academic content of the module. For example, teamwork, interaction, communication, information gathering, conflict resolution, presentation, and decision-making may all be facilitated by experiential learning (Hayes and Reynolds, 2005). Such skills are important for students entering a contemporary work environment that is increasingly based on group, team, and network based models of working (Elam and Spotts, 2004).

Research has shown that the concept of experiential learning is very important in preparing learners for future career challenges. As higher education continues to adapt to new expectations of students, experiential learning has become more important. For example, Clark and White (2010) point out that "a quality educational program must include an experiential learning component". Additionally, some skills and abilities cannot be taught using books or reviewing the works of others. A range of skills and abilities require experiential learning in terms of active observations which many educators refer to as "learning by doing"

Experiential learning has long been valued in the field of agricultural education and has been recognized as an integral part of the educational process (Cheek, Arrington, Carter, and Randell, 1994). Work by Newcomb, et al ( 2004) reported that experiential learning

in agricultural education allows students to apply practices and principles learned in the classroom and to develop new skills and abilities needed in the world of work. Relatedly, Clark and White (2010) concluded that educational programs have embraced experiential learning as a true learning methodology for students to obtain occupational skills valued by employers.

The Ministry of Education and Sports in Uganda is transforming Business, Technical and Vocational Education and Training (BTVET) to provide learners with more opportunities for high quality and relevant learning experiences that build on their competencies (Skilling Uganda, 2011). This transformation has advocated for a BTEVT system that provides learners with valuable experiential learning opportunities that helps to prepare learners for employment. The main purpose of the strategic plan is to enhance employability skills and relevant competencies that are needed in the labour market. BAC uses theoretical and practical approaches like practical lessons, students' projects, and internships in the training of the students with the ultimate aim of producing competent agriculturalists for the world of work. This is in line with the BTVET strategic plan which advocates for a comprehensive system of skills development for employment and enhanced productivity with the ultimate aim of re-orienting BTVET to the needs of the labour market such that training contents is aligned with skills requirements in the labour market.

According to BTVET strategic plan, Ugandan employers face a growing need for highly skilled personnel in response to the demands of an emerging knowledge economy.

Cumming and Lesniak (2000), Smith (2001) reported that students' unacceptable levels of skills and lack of preparation for the workforce were major concerns for employers. Cumming and Lesniak (2000) suggested that this was partly due to lack of student preparation to address skills needed in the workplaces.

With the implementation of many appropriate learning and teaching approaches such as experiential learning, agricultural education continues to face many challenges in preparing learners for the world of work (Hesketh, 2000). "Higher education is faced with the challenge of making the educational experiences relevant to the demands of the employers (Hesketh, 2000). There are a number of factors reported in the literature that contribute to the successful teaching of skills. These include instructional method, teacher attributes, the inclusion of skill acquisition as an explicit learning goal, student involvement and activity, relevant context and student responsibility and autonomy. Cotton (2001) reported that there is need to identify and implement specific educational practices which directly address the issue of skill acquisition. Therefore, this study investigated the use of an experiential learning in skilling agricultural students.

### **1.3 Statement of the problem**

Experiential learning is a major component of vocational pedagogy. Experiential learning aims at addressing the acquisition of skills that will make the student employable (HEQC, 2004, p. 26). It involves internships, service learning, field experiences and practicums that enable learners acquire the skills needed by the employers. Efforts have been made to implement experiential learning approaches in terms of students' projects, practical

lessons, experiments and internships in vocational training institutions to enable learners develop competences needed in the world of work (Rothwell and Sredl, 2000). Skill shortages among agricultural graduates are often portrayed as a major challenge in the world of work. Many employers face difficulties in recruiting agricultural graduates with the skills needed in the world of work prompting further training by employers (Makerere University Institute of Social Research, 2002). There seems to be a gap between what the vocational training institutions offer and what the world of work requires. This study therefore investigated the use of experiential learning approaches in developing skills needed by agricultural graduates for the workplaces.

#### **1.4 Purpose of the study**

The purpose of this study was to investigate the potential of experiential learning in the skilling of agricultural graduates at Bukalasa Agricultural College between 2007 and 2012.

#### **1.5 Objectives of the study**

1. To investigate the skills required by employers of agricultural graduates.
2. To characterize the mode of content delivery in the training of students.
3. To examine the perceptions of the current and former students towards the training approaches used.

#### **1.6 Research questions**

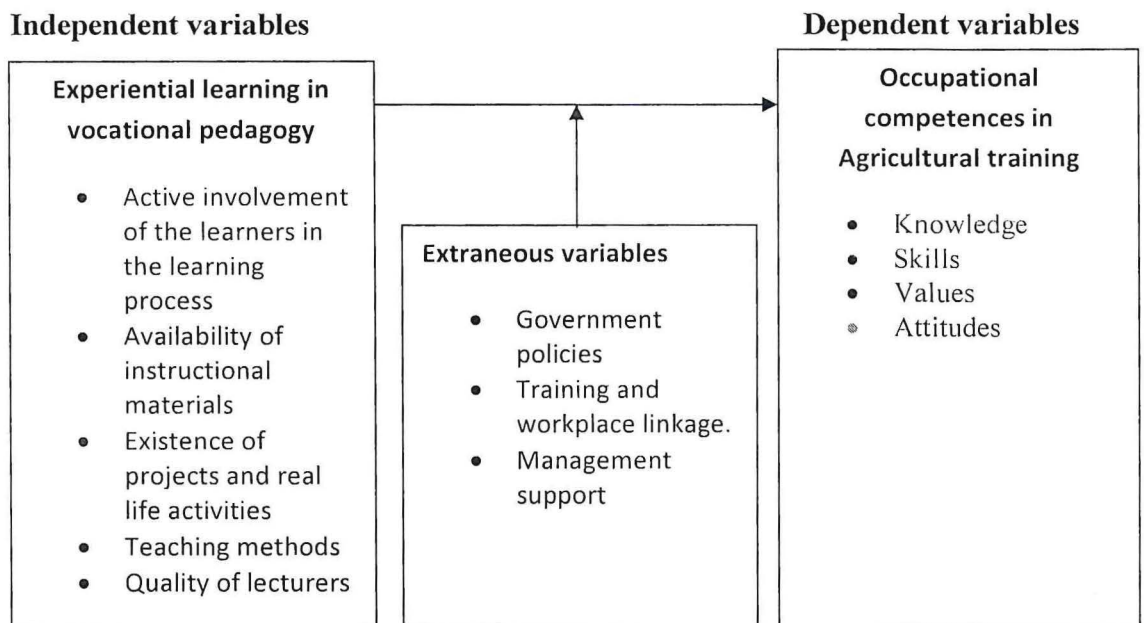
1. What are the skills required by the employers of agricultural graduates?
2. What are the characteristics of the modes of content delivery in the training of students?

3. What are the perceptions of the current and past students towards the training approaches?

### 1.7 Scope of the study

This study was delimited to the Bukalasa Agricultural College Wobulenzi in Luwero district, central Uganda. The study investigated the skills required by the employers of agricultural graduates, characterized the modes of content delivery used in the training of students at BAC, examined the perceptions of the students towards the training approaches at BAC. The study investigated the period from 2007 to 2012. The graduates who trained during the above period were considered. This duration was suitable because most of the graduates within the above stated duration are employed.

### 1.8 Conceptual framework



*Source: Kolbs theory of experiential learning (1984)*

**Figure 1.1: Conceptual Framework**

In this study experiential learning is conceptualized as active involvement of the learners in the learning process, availability of instructional materials, problem solving and existence of projects, teaching methods and quality of lecturers. These influence the acquisition of the knowledge, skills, values and attitudes required in the world of work. This conceptual framework is constructed on Kolb's theory of experiential learning. Kolb (1984) identified a number of elements that are necessary for students to gain knowledge and competence from an experiential learning approach. First, the student must be actively involved in the experience (concrete experience). Second, they must be able to reflect on the experience (reflective observation). Third, the student must be able to analyse and conceptualise the experience (abstract conceptualisation). Finally, they must have the problem-solving skills to use new ideas gained from the experience (active experimentation). In order; for the learners to develop the occupational competencies in terms of knowledge, skills, values and attitudes required for the world of work there is need to actively involve the learners in the learning process, there must be availability of instructional materials and there is need for existence of projects and real life activities and the modes of delivery needs to be learner centered. This greatly depends on other variables such as government policies in terms of training and workplace linkage and the institutional management support in terms of provision of instructional materials

### **1.9 Significance of the study**

The findings of this study will be used as resource for the policy makers for example the ministry of education and the lecturers towards the improvement of agricultural education and training. Besides it will show the need to fill the gaps between work requirements and experiential learning mode of training. Specifically, students the main beneficiaries

will benefit from enhanced employability skills as a result of being exposed to relevant experiences to successfully manage their long-term careers as well as the initial transition from higher education to work. Trainers who are implementers will benefit from access to a range of innovative teaching, learning and assessment materials allowing them to better prepare students to enter and succeed in a highly competitive marketplace. Employers will benefit from graduates entering the workforce with an increased awareness of the employability attributes which allow them to make highly effective and immediate contributions to their employing organisations.

#### **1.10 Justification of the study**

A study conducted by Institute of Social research (2006) of Makerere University found that only 38% of the graduates in agricultural sector admit to have been adequately prepared in terms of the skills required for the work environment. It is based on the above findings that the researcher investigated the potential of experiential learning in the skilling of agricultural graduates in BAC for the world of work. The study has generated recommendations to help improve the training of practitioners in the agriculture sector in Uganda.

#### **1.11 Motivation for the study**

The motivation for this study is on the premise that during the various facilitations and plenary sessions in my first year of Masters in Vocational Pedagogy a lot was emphasized on experiential learning by the facilitators and the mentors. This prompted me to read literature on the role of experiential learning and instructional strategies in vocational subjects. Hence, I was inspired to investigate the potential of experiential

learning in training agricultural graduates. To me experiential learning offers a fundamentally important aspect of vocational education and training.

### **1.12 Limitations**

The limitation to this study includes the busy schedules at BAC hence getting time to interview the respondents proved to be a challenge. The same limitation also applied to the employers and the graduates of BAC. Through frequent visit to the respondents the researcher was able to overcome the challenge.

### **1.13 Operational definitions of terms and concepts**

**Learning:** Change in the learners' ability to perform as a result of experience or practice.

**Vocational pedagogy:** Is subject specific mode of instruction for vocational subjects.

**Vocational Education and Training:** Is education for work or to fit in the world of work.

**Experiential learning:** It is learning derived from meaningful experiences.

**Pedagogical approaches:** These are instructional strategies used in teaching and learning process. These include experiential learning, problem based learning and activity based learning among others.

**Competence:** is the ability of an individual to do a job properly

## CHAPTER TWO

### REVIEW OF RELATED LITERATURE

#### 2.1 Introduction

This chapter is an analysis of the existing literature on the skills required by employers of agricultural graduates, the mode of delivery used in relation to experiential learning and the perceptions of students towards experiential learning.

#### 2.2 The theoretical frame work

The theoretical framework guiding this study is Kolb's Theory of Experiential Learning (1984). Kolb incorporated concepts from several philosophers who studied teaching and learning, including John Dewey, Kurt Lewin, and Jean Piaget, into his theory. Experiential learning is a "holistic integrative perspective on learning that combines experience, perception, cognition, and behavior Kolb (1984, p.21)". From the collaboration of the three theorist perspectives, Kolb developed four components of the experiential learning cycle: concrete experience, reflective observation, abstract conceptualization, and active experimentation. These cycles are represented in the figure below.

The experiential learning approach sees the learner as a cognitive, emotional and physiological being actively involved in the learning process. This approach gave rise to the argument that learning should be holistic in nature and that learners should be assisted in learning from their own unique experiences (Kolb, 1984, p.20). Concrete experiences allow for application, understanding, and meaning of abstract principles. In this model, the classroom is not a teacher-centered environment; instead, it is primarily student-

driven. The teacher is seen as an agent assisting students in educational experiences and making connections between previous knowledge and new learning. The reflective observation component encourages students to critically examine a concrete experience (Zilbert and Leske, 1989). This reflection period forces students to take responsibility for their own learning and engages the learner mentally and emotionally in the recent experience (Proudman, 1992). The use of abstract conceptualization allows students to make generalizations about principles related to the experience and strive for improvement. The final stage, active experimentation, requires the transfer and application of principles to a new situation. Students must be allowed the opportunity to apply the new knowledge and test for validity and usefulness.

In summary, the various principles of experiential learning theory (ELT) are highlighted by Kolb and Kolb (2005) as follows:

- Learning is best conceived as a process. To improve learning in higher education, the primary focus should be on engaging learners in a process that best enhances their learning hence a process that includes feedback on the effectiveness of their learning efforts.
- All learning is relearning. Learning is best facilitated by a process that draws out the learner's beliefs and ideas about a topic so that they can be examined and tested, and their existing knowledge and experiences integrated with new, more refined ideas and concepts.

- Learning is a holistic process of adaptation to the world. Not merely the result of cognition, learning involves the integrated functioning of the total person- thinking, feeling, perceiving, and behaving.
- Learning results from synergetic transactions between the person and the environment.

In conclusion, in order for this model to be successfully implemented, trainers must adequately prepare students to use the required skills of observation, reflection, conceptualization, evaluation, and experimentation that enable them to learn most effectively from their experiences. In addition, trainers must understand that all experiences are not educational. Therefore, it is the responsibility of the teacher to create meaningful, engaging, lasting, effective experiences for all students.

### **2.3 Experiential learning in agricultural education and competence development.**

“Agricultural education programs in the public schools are designed to accomplish educational objectives that pertain specifically to acquiring appreciation, understanding, knowledge, and skills applicable to the agricultural sciences, agribusiness, and the production and processing of food” (Newcomb, McCracken, Warmbrod, and Whittington, 2004, p.10).

In Africa, education systems are short of life skills that link well with the needs of rural communities (Vandenbosch, Hagmann, Momoh, and Ngwenya, 2002). It has been argued that schools can serve as platforms for reaching rural communities with farming innovations through learners. Skeptics point to past failures, noting that school gardens were often poorly managed, giving rather negative examples to communities (Riedmiller,

2002). It has also been argued that training curricula in Africa are dominated by competitive academic subjects and prioritize terminal examinations over practical experiential learning approaches and contextualized learning.

#### **2.4 Skills required by employers of agricultural graduates**

Graduates are entering the workforce without the necessary skills demanded in industry (Atkins, 1999; Peddle, 2000). Supervisors perceived the three most important skills for graduates to possess were: “working well with others,” “functioning well in stressful situations” and their “ability to work independently.” Supervisors perceived graduates to be most competent at: “maintaining a positive attitude,” “relating well with supervisors” and their “ability to work independently.”

A disparity exists in the types of skills taught at training institutions and those that are demanded in industry (Andrews & Wooten, 2005). Atkins (1999, p. 271) posited that “there is currently a skills gap between what employers need and what training institutions are producing”. Evers et al. (1998, p. 16) echoed that “the skills most in demand are least in supply” Specifically, the types of skills in demand include those that are transferable to a variety of situations (Billing, 2003). These transferable skills, also known as employability skills, include the ability to “solve complex, multidisciplinary problems, work successfully in teams, exhibit effective oral and written communication skills, and practice good interpersonal skills” (Schmidt, 1999, p. 31).

Fuhrmann and Grasha (1983) concluded that training institutions could better meet the needs of their students by adjusting how and what they teach. Therefore, higher education

must assess its curriculum and evaluate its purpose in helping students attain skills required by the employers. Shivpuri and Kim (2004) suggested that higher education should listen to the needs of its stakeholders in industry.

A possible reason for higher education institutions failing to address the employability skills of its students could be because college faculty have do not understand what the lacking skills are and do not possess the necessary resources to teach them (Hofstrand, 1996).

## **2.5 Modes of content delivery used in training**

Modes of delivery in this study refer to the approaches used by the lecturers to enhance the learning process. Determining the modes of delivery used in experiential learning depends on the objectives of the course. There is a wide range of views about appropriate modes of delivery used that can take both teaching objectives into account as well as the particular profile of students with their personal motivations. Some modes of delivery may be more applicable in some institutions and situations, and not in others Blenker, Dreisler, Færgemann and Kjeldsen, (2008). Nevertheless, Hindle (2007) argued that it is helpful to use modes of delivery that stimulate creativity, imagination and risk taking, and students learning together, and using realistic scenarios.

This reflects Fiet's (2000) view that trainers could implement a range of experiential activities where the focus is on what the student does. For example, Newcomb, McCracken, Warmbrod and Whittington (2004) have argued that agricultural skills are learned in a variety of ways and methods. Some are best learned by doing and observing others. Lecture-based education has its place in the curriculum, but the training of future

agriculturalists should also include interactive and action oriented modes of delivery. Relatedly, Clark and White (2010) recommended that agriculture education requires experiential learning styles, creative problem solving and learning by doing in order to engage students to acquire skills required by the employers.

Student engagement has been described as a combination of the time and energy students devote to their learning, and the effort institutions make in using effective educational practices Kuh, Cruce, and Shoup, (2008). It has been proposed that engagement in agricultural courses may be achieved by adopting the general proposition that deep learning occurs and is supported by aspects including a common understanding of learning objectives, student motivation, student freedom to focus on the task and interaction between fellow students and with teachers (Biggs, 2003). In order to achieve this deep learning, some educators propose that agricultural education should be linked to practice and be seen by students to be useful, so that they are encouraged to develop skills necessary for success as an agriculturalist (Knobloch, (2003). Implementing teaching methods that draw on practice is seen to be particularly important for the agriculture students.

Earlier, experiences in promoting school agriculture in Tanzania and other parts of Sub Saharan Africa were largely regarded as discouraging because of poor modes of delivery (Taylor, 2003). The quality of school gardens was identified as the single most important factor influencing the knowledge, skills and attitudes of learner towards studying agriculture (Riedmiller, 2002). In the case of Uganda, school gardening is often simply a

labour based activity that offers few learning opportunities to learners engaged in it, a majority of whom leave school without employability skills (Kibwika & Tibeziinda, 1998; NCDC, 2000; Reidmiller, 2002). Astin, (1999) also suggested that for a curriculum to achieve the desired effects, it must elicit sufficient effort and energy on the part of the student in order to bring about the desired learning and development. He pointed out that simply exposing the student to a particular set of courses, as often done with classroom theory, may not work for developing the skills of the learners.

According to Astin (1999), content based approaches to teaching such as the examination driven teaching of agriculture tend to make students passive as simple recipients of information without the practical involvement needed to encourage skill acquisition and transfer. Dormody and Seevers (1994) argued that students should be encouraged to develop a supervised agricultural experience.

Whatever the educational setting, the important point to remember with the concept of experiential learning is that it involves a direct experiential encounter with the learning event rather than simply a thought process associated with the learning (Borzak, 1981). This direct experiential encounter with a learning event requires active engagement of the student as opposed to passive engagement commonly associated with teacher directed instruction that generally results in minimal student interaction in the learning process.

Demonstrations also have the potential to promote problem solving skills and help students develop higher order thinking skills such as analysis, characterisation, evaluations and synthesis (Meyer, Schmidt, Nozawa, & Panee, 2003). However, teachers

have to implement a process that would facilitate students' thinking and questioning (Kelter, 1994). In order to achieve this, teachers should frame nurturing questions that lead progressively to "explanations and understanding concepts" (Meyer et.al., 2003, p. 432). Demonstrations enable teachers to model cognitive strategies and a teacher who thinks aloud and "invites students to observe how he or she deals with perplexity" encourages them to "follow along and participate in problem solving" (Meyer et.al., 2003, p. 432).

Experimental activities have been used in science education since the middle of 19th century. An experimental mode of delivery helps to improve students' hand skills, makes them more productive and increases their active involvement in learning. Students can create a relationship between theory and practice by using experimental mode of delivery and by applying what they learn into their real life problems through experiments, hence they can make their life more meaningful.

Additionally, by using concrete and tangible explanations, students become more involved and absorbed in the lesson (Okan, 1993). Students are active when experimenting and get involved in the experiment excitingly. That is why; activity and high participation is observed during experiments. Experimental mode of delivery has a great importance as it ensures student's active involvement. Observation and learning by doing are the most valid modes of delivery of our time (Ivgen, 1997). Using experimental activities gives the learners opportunity to develop cognitive skills easily and it gives a lot

of opportunities for the students to work in a group which enhances the team building skills.

Further, through this mode of delivery students are also given opportunity to learn by practice (Algan, 1999). Experimental activities encourage affect reasoning, critical thinking, understanding and also helps students to develop ways of producing knowledge Akdeniz , Çepni and Azar (1998). The main goal to reach for experimental studies is to achieve meaningful learning by putting the theoretical information into practice and by proving it (Nakhleh, 1994).

Another mode of delivery used in relation to experiential learning is students' projects. Students working on live projects have shown improvements in communication, teamwork, problem solving, leadership research and presentation skills, as well as in confidence and their belief in their own efficacy Campbell, Mothersbaugh, Brammer, and Taylor, (2001). They provide a challenging environment in which students can practice skills step-by-step (Shepherd, 2004). Hence by participating in projects students are able to apply the knowledge gained from the theoretical lessons.

## **2.6 Perception of students towards experiential learning approach**

Studies assessing the effects of experiential learning in form of cooperative education on students have been conducted in a number of agricultural colleges and universities (Trede and Andreasen, 1997). Most of the results reported a change in perceptions and attitudes of graduates. Trede and Andreasen (1997) state that experiential learning improved team

work, problem solving and allowed students to visualize the actual application of their knowledge.

In a study conducted by Jones (2002), it was found that students mentioned that they learned to build a portfolio, which improved their writing skills. Other students stated that the internship helped in realistic training and had an impact on the improvement of communication skills. On the other hand Kerka (1999) indicated that in California State University, students who participated in an experiential learning initiative reported that it had opportunities to explore career options, and enhanced employability skills such as communication, problem solving, and leadership as well as awareness of community and social problems. Clark and White (2010) cites a case of students who participated in problem-based experiential learning. The student evaluation of the participants pointed out that students felt that it enhanced their ability to appraise problematic situations constructively and objectively.

## **2.7 Benefits of experiential learning**

Studies assessing the effects of cooperative education on students have been conducted in a number of agricultural colleges and universities (Trede and Andreasen, 1997). Most of the results reported a change in perceptions and attitudes of graduates. Trede and Andreasen (1997) state that experiential learning improved team work, problem solving and allowed students to visualize the actual application of their knowledge.

According to Kolb (1984), learning is the creation of knowledge and meaning which occurs through the active action and grounding of ideas and experiences in the external world and through internal reflection about the attributes of these experiences and ideas

(Kolb, 1984). Fenwick (2000) concurs that experiential learning is understood as reflective construction of meaning with particular emphasis on critical reflection and dialogue. Peterson (1997) defines dialogue as a process that builds shared meanings and which enhances the ability of an individual to resolve problems. Therefore, effective experiential learning promotes dialogue.

## **2.8 Experiential learning approaches**

Industrial internship is an important part of an academic curriculum in higher education institutions. An internship is an opportunity for students to incorporate work-related experience and knowledge into their formal education in a training institution by taking part in supervised and planned work in real-world professional environments. Although the majority of higher education institutions offer internship programmes for their students, the exact nature of each programme may differ according to the aims and objectives set by the respective institutions. However, all internship programmes are mainly formed to give the opportunity for students to experience and gain practical knowledge in authentic professional environments before they graduate.

In general, internship programmes try to merge students' learning gained in campus-based environment with real-work environment. Thus, terminologies used to describe this relationship between learning and work becomes important. Terms such as work-related learning, workplace learning and work-based learning (WBL) have been used to discuss and describe internship programmes. However, the similarities and differences of these terms are not entirely clear (Streumer and Kho, 2006). Thus, the term WBL will be used

broadly to encompass these experiences and the literature on WBL is also included to explore the importance of internship programmes for learners.

WBL is based on the notion that the experience a learner gains at work is considered as an important aspect in matters concerning teaching and learning. Therefore, WBL involves a conscious effort to establish situations where learning takes place in real-life contexts. WBL encourages a “more participative, learner-centred approach, which places an emphasis on direct engagement, rich learning events and the construction of meaning by learners” Kolb (1984).

Giving learners an opportunity to experience work in a real-world environment will offer a chance for the students to apply theoretical knowledge learned in the earlier years as student to related, authentic working sites (Hughes, 1998). Many higher education institutions have “sandwich” industrial internship courses where students do their industrial attachment (Auburn and Ley, 1993). This will complement their classroom knowledge whereby the industry location will provide the added practical learning experience. Learning is therefore seen as a two-way process whereby practical experience gained during internship can complement studies undertaken earlier in the training institutions (Little, 2004).

Knowledge and experience obtained from classrooms differs from that gained during industrial internships. Training institutions provide formal structured education which is

often guided by the teaching staff whereas work placement experience promotes informal or incidental learning (Brennan and Little, 1996; Hughes, 1998; Johnson, 2000).

In addition, classroom inputs are usually uniform for all students whereas during internships, the learning environment differs for each student (Agarwal and Gupta, 2008). According to Trotskovy and Sabag (2010, p. 5), students also have the opportunity to identify the differences in “traditional learning process in the academic environment and the learning process in the industrial environment”. Thus, WBL can also contribute to a better academic understanding when students return to their respective training institutions after industrial training (Johnson, 2000).

In addition, participation in internships is also regarded as increasing the marketability of the students when they graduate. The employment market now does not only demand graduates who have a high level of academic knowledge, but also graduates who can demonstrate core competencies essential to succeed in the work environment (Binks, 1996; Johnson, 2000; Okay and Sahin, 2010). Some of these competencies such as working in teams, presenting orally and problem-solving skills can enhance graduate employability (Mason et al., 2006). Thus, through internship placements, students have the opportunity to develop these much needed skills while pursuing their academic qualifications in the training institutions (Semedo et al., 2010; Young, 1995).

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1 Introduction**

The chapter provides the research design, the target population, respondent size, and describes the sampling techniques, data collection methods and tools, data collection procedure, data quality management, data analysis, and ethical considerations.

#### **3.2 Research design**

A descriptive design was used because the data collected was mainly in form of descriptions of the respondents' responses and the researchers' observations. In this study, the researcher used both qualitative and quantitative research approaches to determine the perceptions of the students towards experiential learning. A qualitative research approach enables the researcher to focus on interactive processes hence the understanding of experiential learning.

#### **3.3 Respondent selection**

The targeted population for this study were the students. The key informants included administrators, the teaching staff, graduates of BAC, the students and the employers of BAC graduates. Administrators participated in the study because they determined the management of these institutions and they had information on challenges of training learners using experiential learning. The teaching staff participated in this study because they had information on the modes of delivery used in relation to experiential learning. The students been recipients of experiential learning approach had their perceptions regarding the potential of the approach in developing their skills.

Graduates participated in the study because they are working and they had information on the training gaps, skill required by employers, and the perceptions of using experiential learning. The employers participated in the study because they employ BAC graduates therefore had information about skills required in the world of work.

### 3.4 Respondent size and selection

The respondent size used is presented in the table below.

**Table 3.1 Respondent sizes**

| <b>Respondents</b> | <b>Distribution of respondents</b> |
|--------------------|------------------------------------|
| Administrators     | 5                                  |
| Teachers           | 5                                  |
| Graduates          | 15                                 |
| Students           | 20                                 |
| Employers          | 5                                  |
| <b>Total</b>       | <b>50</b>                          |

### 3.5 Sampling procedure used

#### 3.5.1 Purposive sampling

The researcher used purposive sampling technique for the administrators, lecturers and employers because these respondents had the required information in respect to the objectives of the study.

#### 3.5.2 Stratified random sampling

Stratified random sampling technique was used to select the students. The stratum included first and second year students who had participated in the projects and

internships. The names of the students in class lists were obtained from the Academic registrar's office. These names were placed in a box and they were picked at random after stratifying them as above.

### **3.5.3 Snow ball sampling**

For the graduates a few key informants were identified and they named other graduates who were later contacted. Their contacts were got from BAC. The graduates selected were those who completed from 2007 to 2012 and are working.

## **3.6 Data collection**

### **3.6.1 Expectations of the employers regarding agricultural graduates.**

Personal interviews with the employers were carried out using interview schedules (Appendix 2). Personal visits by the researcher to the various employers were arranged. Employers were interviewed based on their involvement in the recruitment of BAC graduates hence they had information in relation to the skills exhibited by the BAC graduates. The interview schedule consisted of 9 questions comprising open and closed questions. The interviews helped the researcher to collect information on the skills required by the employers. The interview method had advantage because the researcher was able to probe and ask for repetition of information which was not clear enough. Each session lasted at least 20 minutes. Interview method can enable more information and in greater depth to be obtained and also there is greater flexibility under this method as the opportunity to restructure questions is always possible.

### **3.6.2 Modes of content delivery used in the training of students at BAC**

The data for this objective was collected using the interview schedule and observations while attending training sessions especially the students' projects (Appendix 6). Each

session lasted for at least 40 minutes. Observations were made of how learning activities were organized, the modes of content delivery used by lecturers, instructional materials used and the interaction between learners and the lecturers. The researcher observed some teaching sessions using an observational checklist to study the activities and methods used in teaching. The researcher used this method because it helped to eliminate the preference of information given by respondents. The main advantage of this method is that subjective bias was eliminated.

### **3.6.3 Perceptions of the current and past students towards the training approaches at BAC.**

A questionnaire was used to collect the data on perceptions of the current and past students in relation to the training approaches (Appendix 4). The students responded to their perception of how they were helped to develop their skills. A 5 point likert scale consisting of: 1 strongly disagree, 2 disagree 3 neutral 4 agree 5 strongly agree was used to measure the responses. The mean scores were used to judge students perception. A score of 3 denoted neutral perceptions, a mean score of less than 3 denoted negative perception and a mean score of above 3 denoted positive perceptions.

### **3.7 Data quality management**

To achieve validity of the data, the researcher used triangulation approach. This involved the use of different methods of data collection like interview and observation. Validity of the instrument was determined by discussing the data collection instruments with experts like the supervisors of this research. The reliability of the instruments was also determined by pilot testing the instruments with respondents who did not participate in the actual study. This enabled adjustments of the data collection instruments.

### **3.8 Data analysis**

The qualitative data was analysed in three stages. The first stage in analysis was the open coding during which the various themes emanating from the different responses were obtained from respondents. During the second stage the initial codes were reviewed and examined. The last stage in analysing the data was the selective coding of major themes. Quantitative data was analysed using the Statistical Package for Social Sciences (SPSS v. 17.0). The mean scores were used to interpret the data.

### **3.9 Ethical considerations**

Informed consent was sought from all the respondents before interviewing them and the identity of the respondents remained confidential and anonymous.

## **CHAPTER FOUR**

### **RESULTS AND DISCUSSION**

#### **4.1 Introduction**

This chapter is a presentation, interpretation and discussion of the results in relation to the study objectives. The responses by the respondents are denoted as E for the employers, L for the lecturers, ST for the students, GT for the graduates and ADM for the administrators.

#### **4.2 Respondents' demographic profile**

In total, 50 respondents participated in this study in the following categories. Five administrators, five lecturers, fifteen graduates, twenty students and five employers. Most of the respondents were male, forty one were males and nine were female. Of the respondents in the category of employers, three were from public sector and two from the private sector. In terms of experience, five had up to ten years of job experience; five had ten to fifteen years of experience, while only two had more than fifteen years of job experience. The age of most of the twenty students and graduates (70%) was between 21-30 years. The remaining (12%) of the respondents were between thirty five to forty years. While nine (18%) of the respondents were above forty years. The researcher considered these categories of respondents to be an adequate sample for the study. Employers are denoted as E, for example E1 refers to employer 1 while L denotes lecturers and ST denotes students.

#### **4.3 Skills required by employers of agricultural graduates.**

Results were obtained qualitatively using interviews with the respondents (Appendix 2). The responses by the employers denoted as E1, E2, E3, E4 and E5 are given below.

*E1...for an agricultural graduate, skills in administering drugs to unhealthy animals are very important. Skills in agronomy, horticulture, animal production... ..*

*E2. ....important skills that agricultural graduates should have include driving, communication, leadership and information technology skills for example writing reports using word processing, and using the internet especially the e-mail....*

*E3 .....the ability to work with people is also an important skill, as we work with people a lot, you must treat the people equally and you must not show disinterest in the people because they will reject you with all your skills and expertise.... .*

*E4. ....nursery bed management skills, castration, and milking, project management skills go with the ability to assess the needs of the community. The needs assessment skills are also very important because that is how you get to know the problems of the people, especially if you are new in the area. ...*

*E5. .... skills in feed analysis and mixing are important in terms of determining the proportion of the feed ingredients.... ..*

The responses show that skills required by employers vary depending on the type of job role to be carried out within an organization. The categories of skills emerging from the employers responses are as follows: administering treatment to unhealthy animals, milking, castration, feed analysis and mixing, nursery bed management, communication skills. The responses indicate that employers desire agricultural graduates who possess the above skills.

The findings of this study indicate that the emphasis on skills required by employers varies depending on the type of job role to be carried out within an organization. For example skills expressed by E1 fit in a farm that specialises in animal production whereas those expressed by E3 fit for extension workers who deal directly with farmers. This means that the type of skill expected from the graduates depended on the kind of job roles each organization has. This therefore creates a situation where in training there may be emphasis on skills that might not have effective demand in one sector of the labour

market hence causing a situation where the employers may perceive the graduates lacking skills yet the reality may be that the graduates may not have received training in the area required by a particular employer. This can cause a mismatch between the skills imparted at the training institutions and the skills demanded at the labour market. There are several possible explanations for this result. One possible cause of these mismatches is the rapid changes in the workplaces in terms of technological changes. Eduardo (2007) argued that globalization and technology change meant diversification in the labour market. In consequence, competence profiles required become more and more diverse thus training institutions need to cope up with the effects of changing technology by changing the styles of training to fit into the challenges brought by advancements in technology and globalization.

Therefore, it is necessary for training institutions to understand the nature of skills required of graduates by the employers such that the curriculum in the training institutions is constantly reviewed to engage learners to gain skills which employers require of students in order to succeed in the job market. Atkins (1999) observed that if nothing is done to improve educational performance in terms of skills acquisition, the gap between the skill needs of industry and the skills received by graduates will continue to grow. The students need to be trained taking into account what changes are taking place in the labour market such that obsolete technologies are not taught to the learners. Therefore, the training institutions need to always align their training with the labour market needs and this call for labour market survey and constant periodic revision of the training curriculum to suit the labour market needs.

Also responses from the employers showed skills lacking in the newly recruited agricultural graduates as follows;

*E1:.....some new agricultural graduates lack skills for example artificial insemination in agriculture but what is good is that they are willing to learn when given a chance. Most of them become confused in the field where they have to apply the theory in practice and the graduates do not have computer which becomes evident when they write monthly progress reports....*

*E2:. ....new agricultural graduates lack value chain management skills for example processing of crop and animal products, leadership skills and also interpersonal skills hence graduates lack the ability to work in teams... ..*

*E3:.....the agricultural graduates do not have critical thinking skills and analytical skills which include the ability to think creatively, make decisions, and solve problems which arise in the work places.....*

*E4:. ...agricultural graduates seem have limited communication skills, problem solving skills and financial management skills....*

The responses show that newly recruited agricultural graduates lack value chain management skills, artificial insemination skills, communication skills, problem solving skills, analytical skills, time management skills, team work and team building skills and financial management skills.

Ester and Nicola (2009) observed that skills acquired by the learners depend on the effectiveness of training programme design, implementation and delivery methods which in turn depend on support and agreement from both management and academic staff. It is possible at BAC to design training programmes; modes of content delivery that can enable the students acquire the skills that are demanded by the employers.

The mode of teaching and learning for employability therefore needs to offer experiences for students which allow them to see their employability skills as part of their core activities in higher education. Cotton (2001) reviewed teaching employability skills and concluded that training institutions need to identify and implement specific educational practices which directly address the issue of employability skill development which may not be entirely straightforward given the diversity of constraints many training institutions face. However, there is compelling evidence as in this study for the need of orientation programs to work, particularly in the crucial period shortly after graduation, and graduates' early careers (Stephen and Christine, 2000). Thus the training institutions need to identify skills lacking in the graduates such that they can adjust the training strategies in order to impart the skills required by the employers in the labour market.

When probed for any possible reasons for the lack of skills exhibited by new agricultural graduates the following were the responses:

*E1:..... I think these skills mentioned earlier on were not emphasized at the training institutions.*

*E2:.....a possible reason for training institutions failing to address the skills of its students could be because these institutions do not understand what skills are required by the employers.....*

*E3:.....graduates are entering the workforce without the necessary skills demanded in labour market because training institutions do not possess the necessary resources to teach them the skills need in the labour market...*

*E4: .....training institutions curricula do not meet the employment needs hence the skills that training institutions are promoting includes "generic study skills, intellectual skills, but work related skills are not promoted by many training institutions....*

*E5: ....subjects studied in most training institutions are not as important as the graduates' ability to handle complex information and communicate it effectively. Graduate attributes are more important than the specific occupational skills unfortunately many training institutions pay more attention to the generic subject specific skills at the expense of the graduates employability skills in terms of the ability of graduates to handle workplace dynamics and communicate effectively.....*

The above responses imply that in order for training institutions to produce graduates with the skills required in the labour market there is need to involve the work places in the design of the training curriculum. Hence the training institutions need to carry out survey on what skills are required by the labour market and they design training approaches or packages that can enable the learners acquire skills which are on demand in the labour market besides the generic subject skills.

According to Stephen and Christine (2000) “producing employable graduates is becoming more complex and more important. Graduate numbers are expanding faster than the market for traditional graduate jobs; graduates are more diverse in age, social background and motivations, while the labour market which they enter is even more complex and volatile. As a result, the employers have become more interested in measuring the competencies of the employees and this consequently calls for more increased interaction between training institutions and the world of work. In a situation where the training institutions operate in isolation without regard to the demands and changes in the world of work there is bound to arise complains of lack of skills.

Also findings from the respondents (4.3) indicated that the employers faulted the training institutions for doing a poor job to prepare their graduates for employment. For example

respondent E2 reported that training institutions have limited necessary resources to teach the skills needed in the labour market. Therefore, it can be seen that employers are concerned by the lack of skills exhibited by most of the agricultural graduates yet employers consider it the responsibility of educational institutions to develop such skills. Also the employers revealed that training institutions are not adequately preparing students for jobs, for example E1 (page 33) reported that agricultural graduates lack skills in artificial insemination. This gives an impression that a disparity exists in the types of skills taught at the training institutions and those that are demanded by the employers. Some of the employers attributed this lack of skills by the graduates on the more broad based education curriculum used in training institutions, for example E3(page 33) reported that training institutions are promoting intellectual skills not work related skills. The employers indicated that in order to allow effective skills acquisition students need to receive specific workplace training. A possible reason for higher education institutions failing to address the employability skills of their students could be because colleges have not understood what the lacking skills are and do not possess the necessary resources to teach them. This is similarly echoed by Hofstrand (1996). Also Taylor (2003) says that while higher education colleges may not know what the lacking skills are, employers do, and as such, can have an influence on the enhancement of these skills in the institutions. Therefore, BAC needs to assess her curriculum and evaluate its purpose in helping students attain skills needed in the world of work besides the professional hard skills.

Regarding whether the employers provide support systems for newly recruited agricultural graduates to enable them acquire the skills needed to perform at their work places, the following responses were given by employers:

*E4:.....our organisation has induction programmes for newly recruited employees to cope up with the skill needs of the organisation....*

*E1:..... the new graduates are assigned a supervisor who assists them. The graduates normally work under the supervision of a senior staff member or an experienced worker who guides newly recruited agricultural graduates such that they can be able to perform well in their various jobs.....*

The responses from the respondents E4 and E1 indicate that some workplaces have programmes aimed at assisting recently employed graduates to cope up with the skill demands of the workplaces. This implies that training institutions need to include workplace learning as a component of their curriculum such that the students can learn work related skills expected of them.

The responses of E4 and E1 above further, reveal that there were programmes aimed at assisting recently employed graduates in the workplaces, for example in terms of induction courses to familiarize new graduates to the working environment. Also, the new graduates would be assigned a supervisor who would assist them to acquire the required skills expected of them in their fields of specialization.

Therefore, BAC needs to carry out a labour market survey on the skills demanded by the employers such that her curriculum can be evaluated to suit its purpose in helping students attain skills needed in the world of work.

#### 4.4 Modes of content delivery used in the training of students.

Interviews were held with the lecturers, students and observations of training sessions, student's projects were made. Also the programs and practicum documents were looked at.

Based on the training module documents, the training takes a period of fifteen weeks per semester. During the semester students are exposed to various practical activities at the college. The students at the end of the year are also exposed to industrial training or attachment in workplaces which takes six weeks.

Interviews with the lecturers revealed that in order to make learners understand some of the practical aspects better, there was need to provide the theoretical aspects first such that the learners can connect the theory to the practical aspects.

Interviews with the students revealed that there were more theoretical lessons than the practical lessons. Some of the students' responses were as follows;

*ST 6.....most times we are in the classrooms attending lectures and we have limited time for practical work.....*

*ST 15.....we are given a lot of notes in terms of hand outs to read instead of engaging us in more practical's than the theory lessons... ..*

During the interview with the lecturers, one said;

*L 3.....Due to shortage of the instructional materials we are forced to teach theoretically some aspects because of insufficient tools and equipment's. Realistically some of these instructional materials needed for the practical's are expensive to buy for every student.....*

According to ADM 1, shortage of instructional resources affects the learning process of the students. The respondent expressed his view in an interview as follows:

*ADM 1.....Some of the tools and materials we need for training are very expensive and we need them for training but we cannot afford to provide all the students with these tools and materials this can influence the method used for training.....*

The findings above indicate that the theoretical lessons were more prevalent compared to the practical aspects of training. This implies that the learners are not actively involved in the teaching and learning process and this can influence the acquisition of skills. Although Blenker et al, (2008), argued that some modes of delivery may be more applicable in certain situations, the important point to note in the case of BAC is whether the mode of delivery used can deliver the intended goals of the training. At BAC where learners are expected to demonstrate practical skills it is better for the trainers to select modes of delivery that can allow the learners to acquire the practical skills required. Similarly, Hindle (2007) argued that it is helpful to use modes of delivery that stimulate creativity, imagination and risk taking, and students learning together, and using realistic scenarios if in future learners are expected to reflect such skills. This therefore calls for the trainer to select the modes of delivery putting into consideration the functional outcomes expected of the modes of delivery used.

A demonstration of feed mixing was observed. When probed for the reason why the lecturer chose to carry out the demonstration instead of allowing students to carry out the feed mixing, he answered as follows;

*L3.....showing how something is done is a much more effective way of teaching than describing how it is done theoretically.....*

The lecturer believed the demonstration can enable the students to acquire skills related to the demonstration. Similarly, Meyer et al (2003) argued that demonstrations have the potential to promote problem solving skills and help students develop higher order thinking skills such as analysis, characterisation, evaluations and synthesis. However, teachers have to implement a process that would facilitate students' thinking and questioning (Kelter, 1994). In the course of a demonstration teachers should frame questions termed as nurturing questions that lead progressively to "explanations and underlying concepts" during demonstrations such that the learners can benefit from this mode of delivery (Meyer et.al., 2003, p. 432). Also, demonstrations enable teachers to model cognitive strategies and a teacher who thinks aloud and "invites students to observe how he or she deals with perplexity" encourages them to "follow along and participate in problem solving" (Meyer et.al., 2003, p. 432). In this particular instance however, of the observed demonstration, the teacher would have allowed the students to do the feed mixing while he guided them in order for the students to acquire the skills needed in feed mixing. When students participate in a learning activity they learn more than when they observe an activity. Therefore, the lecturers always need to engage students actively in the various learning activities. Engaging students, monitoring their thinking and creativity and providing feedback are some of the aspects essential to the success of lessons during skills training. Hence it is important for trainers to select modes of delivery that encourage the active participation of the learners.

Also, students were observed carrying out experiments. In a soil science experiment of testing for soil fertility in the laboratory, when asked about the value of the experiment in teaching, the lecturers' responses were as follows;

*L4 .....experiments help to improve students' manipulative skills, analytical skills and make them more critical besides the students are actively involved in learning process.....*

*L5.....through experiments students can create a relationship between theory and practice and helps them apply what they learn.....*

Thus, the lecturer believed experimental mode of delivery helps to improve students' hand on skills, makes them more productive and increases their active involvement in learning. This would be in agreement with Read and Kleiner (1996) who said students can create a relationship between theory and practice by using experimental mode of delivery and by applying what they learn into their real life problems through experiments, hence they can make their life more meaningful

Students are active when experimenting and get involved in the experiment excitingly. That is why; activity and high participation is observed during experiments. The experimental mode of content delivery gives the opportunity to develop cognitive skills easily and further it gives a lot of opportunities for the students to work in groups or alone. Further, this mode of delivery gives opportunity to learn by practice (Algan, 1999). Also experimental activities encourage critical thinking, understanding of scientific principles, practices and help students to develop the ways of producing knowledge (Akdeniz et al., 1998). The main goal in the experimental approach would be to achieve meaningful learning by putting the theoretical information into practice and by proving it (Nakhleh, 1994). In this way, experimental mode of content delivery and experiential

learning as similar in enabling learners develop skills of reasoning such as critical thinking.

Further, in the observation of the training activities it was found that students' projects formed part of the delivery mode at BAC. The students had various projects which included poultry projects and piggery projects and vegetable growing projects. In the interviews with the lecturers the following reasons were given by the lecturers for engaging students in project work.

*L 2..... projects enable students to apply the theory they learn in the class hence the students can generate the relationship between theory and practice through these projects.....*

*(L 4)..... projects carried out by the students facilitate them to become active and also reflect upon the learning process.....*

The responses from the lecturers indicate that in projects students had opportunity to relate theory to practice.

On the other hand there were few group tasks. The classes had up to eighty students hence the sizes of the classes were very big. This implied that the lecturers could not attend to the learners as individuals and even individual guidance may not have been possible. The sizes of the classes were very big. This implies that the lecturers could not attend to the learners as individuals and even individual guidance may not have been possible. According to Chris (1998) trainers need to organize learners in groups such that they can help each other to learn. Group tasks promote skills learners have to acquire in relation to team building. Group tasks are particularly beneficial when the group sizes are small.

In situations where the groups are large the learners may not benefit much from the group tasks. Therefore, the study found out that the theoretical lessons were more prevalent compared to the practical aspects of training. Hence, BAC needs to ensure that adequate time is provided for the practical's such that the practical's can enable the learners to acquire a wide range of hard and soft skills required by the employers.

#### 4.5 The perceptions of the current and former students towards the training approaches used at BAC

##### 4.5.1 Training and learning activities

The mean scores on the perception of the respondents concerning the training and learning activities are shown in Table 4.1. The items were rated on the 5 point Likert scale ranging between 1=strongly disagree to 5=strongly agree.

**Table 4.1: Students perceptions about the training activities at BAC**

| Perceptions about the training activities                         | Mean | Std. Deviation |
|---|------|----------------|
| Learning activities were based upon my needs in the labour market | 3.45 | 1.14           |
| Learning activities involved group tasks                          | 2.10 | 1.42           |
| Training activities involved active learning                      | 2.42 | 1.61           |
| Varied training activities were provided                          | 2.23 | 1.41           |

**Source: Primary data 2013**

The results in Table 4.1 indicated that while the respondents agreed that learning activities were to a good extent based on their needs in the labour market (3.45\*std1.14), the respondents disagreed that learning activities involved group tasks (2.10\*std1.42), involved active learning (2.42\*std1.61) and were not varied (2.23\*std1.41). Whereas on

the other hand, experiential learning activities which are so vital for skills acquisition by learners are characterised by activities where the learners are given a marked degree of autonomy and control over the organisation, conduct and direction of the learning activities (Knobloch, 2003). Also according to Chris (1998) active learning is effective in fostering a number of important learning skills involved in the process of organizing activities such as communication skills which can be developed during group tasks.

On the other hand in an interview, one of the lecturers explained that:

*L3..... when the students are given group tasks, some of the students tend to dodge such tasks and leave few students to carry out the tasks. For me I prefer individual tasks than the group tasks.....*

These findings on the part of the respondents suggest that the learners were not actively involved in the training because the respondents disagreed that they were actively involved in the training (Table 4.1). Whereas providing learners with a variety of learning activity opportunities provides for learners to learn in different ways, builds and develop different skills from different learning activities. Hamer, (2000) argued that experiential learning with varied activities enables enhancement of learning and learners perceiving the learning process as “value-adding”.

Therefore, when learning activities are not based on the needs in the labour market as found in this study, skills gap between what employers need and what training institutions produce may widen.

#### 4.5.2 Instructional materials

The mean scores on the perception of the respondents regarding the use of instructional materials during training activities are shown in Table 4.2. The items were rated on the 5 point Likert scale ranging between 1=strongly disagree to 5=strongly agree.

**Table 4.2 Students perceptions on the use of instructional materials at BAC.**

| <b>Use of instructional materials</b>   | <b>Mean</b> | <b>Std. Deviation</b> |
|---|-------------|-----------------------|
| Sufficient instructional materials are provided during activities and training sessions | 1.69        | .74                   |
| Much time would be allocated to interact with the instructional materials               | 1.79        | .81                   |
| Trainer guided us in using the instructional materials during learning activities       | 4.14        | .73                   |
| Instructional materials are relevant to learning activities we were exposed to          | 4.22        | .94                   |

**Source: Primary data 2013**

The results in Table 4.2 indicated that the respondents strongly disagreed that sufficient instructional materials were provided during learning activities and training sessions (Mean=1.69\*std.74) and they also strongly disagreed that much time would be allocated to interact with the instructional materials (Mean=1.79\*std.81). However, the respondents agreed that the trainers guided them in using the instructional materials during learning activities (Mean=4.12\*std.73) and the instructional materials they were given was relevant to the training activities (Mean=4.38\*std.94).

During interview with the lecturers the following were their responses.

*L1 .....increased rate of enrolment has increased pressure on the available resources hence providing students with adequate instructional materials is challenging to the college....*

*L2 .....the high number of the students is challenging to us because there is limited time to allow students engage in many activities because we have to finish the syllabus in the training module before the semester examinations.....*

*L3 .....the cost of some of the materials I need for the experiments are very expensive and providing them to each student is a challenging....*

The findings from the study (Table 4.2) and the lecturers responses above revealed that the instructional materials used during the various learning activities were inadequate. This could have affected the learners' skills acquisition process because the exposure of students to various instructional materials is very important for their skills acquisition. Experiential learning approach for skills acquisition requires maximum interaction of the students with the instructional materials in order to acquire the required competencies (Knobloch, 2003). In a situation where learners are not exposed to adequate instructional materials their skills acquisition ability become reduced because interaction with the instructional materials help learners to monitor and control their own thought processes to facilitate learning. Nilsson (2007) argued that the various tools learners interact with during training determine the ability to acquire relevant competencies needed in the place of work, hence if learners are trained with inadequate and obsolete tools such learners are likely to experience problems at their work places.

These results are consistent with the findings of Kolb and Kolb (2005) who stated that in order for the learners to develop skills needed in the world of work they need to be

exposed to the relevant content and tools during the training process. Hence, when learners are exposed to obsolete tools and equipment's during training it may affect their school to work transition.

Therefore, the study found out that the instructional materials used during training were inadequate and could not facilitate the requisite experiential learning for skills acquisition. The interaction of students with various instructional materials is very important for their skills acquisition.

#### 4.5.3 Organisation of training activities

The mean scores on the perception of the respondents on organisation of the training activities are shown in Table 4.3. The items were rated on the 5 point Likert scale ranging between 1=strongly disagree to 5=strongly agree.

**Table 4.3: Students responses on the organisation of the training activities at BAC.**

| <b>Organisation of the training activities</b>                   | <b>Mean</b> | <b>Std. Deviation</b> |
|--|-------------|-----------------------|
| Training involved classroom and community involvement activities | 2.23        | 1.48                  |
| Training activities were organized in groups                     | 2.10        | 1.19                  |
| Training activities enabled us to reflect on the experiences     | 2.26        | .81                   |
| Training activities encouraged active observation                | 2.42        | .93                   |

**Source: Primary data 2013**

The results in Table 4.3 show that the students disagreed that training activities involved community activities (mean2.23\*std1.48), training activities were organized in groups

(mean 2.10\*std 1.19), training enabled the learners to reflect on their experiences (mean 2.26\*std 0.81) and the training activities encouraged active observation during the training (mean 2.42\*std 0.93). Therefore, training did not involve community activities vital for agricultural students; hence the students most likely miss out on extension skills and communication skills. Through community involvement the students would be able to understand the dynamics of working with the farmers. Thus, providing students with opportunities for community involvement would enable them to develop their extension skills while they are in the training institutions. Wuff-Risner and Stewart (1997) argued that learners need to be trained and involved in the context in which they are going to apply the knowledge.

Findings (Table 4.3) further indicated that students had minimum opportunities to reflect on their learning. Reflecting on the experiences during training enables students to obtain greater insights into the training activities. Thus, when the learners are not given chance to reflect on their experiences, they may fail to connect their previous experiences with new knowledge and ideas. Reflecting on their experiences encourages creative responses to problem solving which is an important skill for the agricultural students. Kolb (1984) concluded that allowing learners to reflect on their experiences and learning makes learners gain useful insights into the way knowledge is created and applied. Active observation and reflection during training activities elicits and sustains student motivation and interest in the training activities. Hence the motivation and interest of the students become low when fewer opportunities are provided for the students to actively observe during the training activities.

Therefore, lack of community activities and minimum opportunities for reflections at BAC as observed in this study can limit the chances of the learners to get extension and rural sociology skills.

#### 4.5.4 Students perceptions on the role of lecturers during learning activities

The mean scores on the perception of the students regarding the role of lecturers during the training activities are given in Table 4.4. The items were rated on the 5 point Likert scale ranging between 1=strongly disagree to 5=strongly agree.

**Table 4.4: Students perceptions on the role of lecturers during the training activities.**

| <b>Role of lecturers</b>                            | <b>Mean</b> | <b>Std. Deviation</b> |
|---|-------------|-----------------------|
| Provided opportunities for active learning          | 2.42        | 1.61                  |
| Provided a variety of learning activities           | 2.10        | 1.42                  |
| Provides clear instructions and explanations        | 4.38        | .91                   |
| Provided opportunities for application of knowledge | 1.51        | .50                   |

**Source: Primary data 2013**

The findings in Table 4.4 above, show that the students disagreed that they were provided opportunities for active learning (mean2.42\*std1.61), and a variety of learning activities (mean2.10\*std1.42) although the respondents agreed that the lecturers provided clear instructions and explanations during training. The students strongly disagreed that they were provided opportunities for application of knowledge (mean1.51\*std.50)

In interviews, lecturers L3 and L4 indicated that that:

*L3.....relevant experiences for the world of work can best be learnt from the work places .....*

*L4 ... .. varying learning activities mean more time yet you have to finish the syllabus in the training module before the semester examinations.....*

The responses of the students (Table 4.4) and those of the lecturers indicate that lecturers provided little opportunity for active learning or experiential learning as described by Knobloch (2003) pointed out earlier.

Knobloch (2003) describes experiential learning as the process where the learners are actively involved while learning. The students strongly disagreed that they were provided opportunities for application of knowledge. The role of lecturers in experiential learning process is very important because as trainers they programme, guide and assess the various learning activities. Chris (1998) pointed out that for learning objectives to be successful the trainer is a very important factor hence the trainers knowledge and action in terms of the methods he uses and the management of the training process and materials is a very important factor in the success of a training programme.

Therefore, lack of opportunities for application of knowledge as found in this study leads to a situation where students fail to integrate the theory with practice and this can affect the skills acquisition of the students. Experiential learning requires that learners should be given opportunity to apply theory learnt. Therefore, at BAC in order to encourage experiential learning on the part of both the lecturers and students, the lecturers need to

provide opportunities for students to actively participate in the learning process such that they can apply the theory into practice.

#### 4.5.5 Students evaluation of the assessment processes at BAC

The mean scores on the perception of the students regarding assessment processes in at BAC are shown in table 4.5. The items were rated on the 5 point Likert scale ranging between 1=strongly disagree to 5=strongly agree.

**Table 4.5: Students evaluation of the assessment processes of at BAC**

| Students evaluation  | Mean | Std. Deviation |
|--|------|----------------|
| I knew how the learning activities were going to be assessed | 4.03 | 1.36           |
| The way I was assessed was a fair test of my skills          | 4.14 | 1.15           |
| I was assessed at appropriate intervals                      | 4.22 | .83            |
| I received useful feedback on my assessment                  | 4.14 | 1.15           |
| The assessment was a good test of what I was taught          | 4.12 | 1.16           |

Source: Primary data 2013

The results in Table 4.5 revealed that the students were satisfied with the assessment processes at BAC.

During interviews, the students gave the following responses;

*ST 3..... I knew that the industrial training is normally assessed by writing a report according to a prescribed format, course work tests at the end of every module are known ways of assessing us .....*

*ST 2....the college has examinations at the end of the semester for the theory examination and this is normally at the last two weeks of the semester and the theoretical examinations are dominant...*

These findings imply that when the students know how they are to be assessed, they are likely to master the skills to be assessed for example knowing how to examine report writing will enhance their writing skills. Therefore, students should be informed of how they are likely to be assessed on the various skills and there is need for appropriate feedback on the assessment results. The college carries out formative and summative assessment (ST 2). The summative evaluation is in form of theory examinations at the end of the semester. The findings (ST 2) revealed that the assessment process was examination oriented and there was minimum testing of the practical competences the students had acquired because it basically tests the ability of the students to recall facts. It is important for trainers to assess the practical aspects using practical assessment criteria and give it priority in relation to the skills required by the employers. According to Chris (1998), to monitor and assess the learners skills acquisition progress there is need to develop strategies that test the practical skills. Therefore, giving learners a lot of theoretical assessments at the expense of the practical skills will make the institutions fail to take corrective actions to avert scenarios where learners are lacking skills. On the other hand, according to Mason et al (2010) creating and supervising an experiential learning environment can be challenging for educators who have been taught through traditional classroom techniques and may not guide and assess students well during experiential learning activities.

Therefore, the learners at BAC need to be assessed using appropriate methods, for example continuous assessment of the practical's as required in experiential learning activities (Knobloch, 2003) such that the learners can be assessed on their competencies and corrective measures taken.

## CHAPTER FIVE

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Summary

The study investigated the potential of experiential learning in the skilling of agricultural students at BAC. Employer's expectations of the graduates, modes of content delivery and the perceptions of the current and former students towards the training approaches were investigated. Methods of investigation used included interview, observation and questionnaire. Findings revealed that skills required by employers vary depending on the type of job role to be carried out within an organisation. The skills included administering drugs to sick animals, feed analysis and feed mixing skills, nursery bed management skills, value chain management skills, communication skills and interpersonal skills. The modes of content delivery used in the training were found to involve both theoretical and practical aspects. Learning was organized on individual basis with minimum group tasks. Supervision of the learning process by the lecturers was found to be limited. The sizes of the classes were very big and the dominant mode of delivery was the lecture method. Other modes of content delivery used included demonstrations, students' projects and experiments; however, these were falling short of active learning requirements. Instructional materials given to students during the various learning activities were inadequate and therefore could not support active learning activities as expected. Experiential learning requires that learners should be actively involved in the learning process and there should be adequate learning materials. Yet the teaching learning process modes at BAC were found

falling short of the active engagement of learners in the learning process. Experiential learning therefore has a big potential to enhance the learning process at BAC.

## **5.2 Conclusions**

On the basis of the findings the following conclusions were made out of the study. A disparity exists between the skills produced at BAC and skills demanded by the employers at the labour market. The skills demanded by the employers were not only hard skills such as administering treatment to sick animals, artificial insemination feed analysis and mixing, nursery bed management but also soft skills such as, communication skills, critical thinking, decision making and team work.

Experiential learning as an approach of using hands on training and active learning is important in helping students to integrate theory and practice and acquire skills. However an enabling environment in terms of appropriate training approaches and training materials were falling short at BAC.

## **5.3 Recommendations**

The following recommendations were made on the basis of the conclusions of the study:

- (i) BAC need to ensure that they are aware of the expectations of employers and learners and develop processes and systems to meet the expectations of employers.
- (ii) BAC should continue to encourage and reinforce use experiential learning approaches for example individual and group learning activities, experimental work, students projects based on positive impacts and industrial training.

- (iii) Partnerships between BAC and work places need to be created such that the learners can use the work places as avenues for gaining competences required in workplaces.
- (iv) The course content should be more flexible such that it can respond to the demands of the labour market and needs to be revised periodically for example every two years to meet the changing needs of the labour market.
- (v) There is need for BAC to endeavour provide the learners with adequate learning materials such that the learners can be able to acquire the skills required by the employers through experiential learning.

#### **5.4 Areas for further studies**

The following areas for further research are suggested:

- (i) A similar survey should be conducted in other colleges, as well as universities that train agricultural graduates. This could help to validate the findings of this study and might possibly determine universal experiential learning program guidelines. Furthermore, this would bring about the identification of different issues and needs related to experiences regarding the development of skills and abilities that need to be addressed.
- (ii) A deeper inquiry of experiential learning program should be conducted to further understand the impact and effectiveness of the approach.
- (iii) Longitudinal case studies should be conducted to evaluate the students' and employers' needs gap analysis hence leading to a regular curriculum audit.

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## **Appendices**

### **Appendix 1: Interview schedule for the administrators**

**Dear respondent,**

I am a student of Kyambogo University offering Master's Degree in Vocational Pedagogy. I am carrying out research as part of the requirement for the award of a master's degree in Vocational Pedagogy of Kyambogo University. Kindly spare some time to answer the questions. The information provided shall be used purposely for this study and shall be kept with the utmost confidentiality.

**Thanks for your cooperation.**

1. How do you support learning activities in this institution?
2. What benefits are reported to you of the experiential learning approach?
3. What challenges do your lecturers face in implementing experiential learning?
4. What suggestions can you propose in order to improve experiential learning activities?

## Appendix 2: Interview guide for employers

Dear respondent,

I am a student of Kyambogo University offering Master's Degree in Vocational Pedagogy. I am carrying out an academic research as part of the requirement for the award of a Master's degree. The interview may take about 20 minutes. The information provided shall be used purposely for this study and shall be kept with utmost confidentiality.

Thanks for your cooperation.

### Demographic information

Age

Sex

What is your qualification?

Current Position

Major function or responsibility

1. Which one of the following skills does your organization require from agricultural graduates?

|                      |                          |                                  |                          |                |                          |
|----------------------|--------------------------|----------------------------------|--------------------------|----------------|--------------------------|
| Problem solving      | <input type="checkbox"/> | Decision making                  | <input type="checkbox"/> | Technical      | <input type="checkbox"/> |
| Communication        | <input type="checkbox"/> | Organisation and time management |                          |                | <input type="checkbox"/> |
| Conflict management  | <input type="checkbox"/> | Leadership                       | <input type="checkbox"/> | Record keeping | <input type="checkbox"/> |
| Financial management | <input type="checkbox"/> |                                  |                          |                |                          |
| Interpersonal        | <input type="checkbox"/> |                                  |                          |                |                          |

2. Do recent agricultural graduates' demonstrated required competencies when they first assumed their duties with your organization?
3. What skills do the graduates lack? And any possible reasons for the lack of skills?
- 4a. What learning opportunities do you offer to students?
- 5a. What tasks or activities do you typically assign recent graduates who join your organization?
- 5b. How are these new graduates assessed in terms of performance?

6. Who guides recent graduates during their first encounter with their job in this organisation?
7. What problems have you experienced with recent graduates who work for your organization?
8. What programs are there to assist recently employed graduates?
9. What professional development programs do you offer to recent graduates working for your organization?

### **Appendix 3: Interview guide for lecturers**

Dear respondent,

I am a student of Kyambogo University offering Master's Degree in Vocational Pedagogy. I am carrying out an academic research as part of the requirement for the award of a Master's degree. The interview may take about 20 minutes. The information provided shall be used purposely for this study and shall be kept with utmost confidentiality.

#### **Demographic information**

Age

Sex

What is your qualification?

Current Position

Major function or responsibility

1. What skills does the content of your curriculum provide to equip agricultural graduates such that they can be effective in their work?
2. In comparison to the world of work, what skills do you think are lacking in your students in order for them to be effective in their work?
3. How do you help students integrate theory with practice?
4. What tools do you use to assess the progress of students learning?
5. What support do you provide to students during learning process?
6. What role do you play as a lecturer?
9. What problems do you meet in the training?
7. What specific goals do you intent to achieve by the modes of delivery you use?
8. How is the assessment of students done?
9. What changes can you suggest in order to improve the learning?

**Thanks for your cooperation**

**Appendix 4: Questionnaire on perception of current and past students towards training approaches at BAC in relation to experiential learning.**

Dear respondent,

I am a student of Kyambogo University offering Master's Degree in Vocational Pedagogy. I am carrying out an academic research as part of the requirement for the award of a Master's degree. The information provided shall be used purposely for this study.

**Demographic information**

Age

Sex

What is your qualification?

Current Position

Tick giving your perception on the items below according to the level you agree or disagree with the statements below. 5- Strongly Agree (SA), 4-Agree (A), 3-Neutral, 2 – Disagree (D) and 1 – strongly Disagree (SD)

**A: Training activities**

|   | <b>Items</b>  | <b>SD</b> | <b>D</b> | <b>N</b> | <b>A</b> | <b>SA</b> |
|---|---|-----------|----------|----------|----------|-----------|
| 1 | Learning activities were based upon my needs in the labour market | 1         | 2        | 3        | 4        | 5         |
| 2 | Learning activities involved group tasks                          | 1         | 2        | 3        | 4        | 5         |
| 3 | Training activities involved active learning                      | 1         | 2        | 3        | 4        | 5         |
| 4 | Varied training activities were provided                          | 1         | 2        | 3        | 4        | 5         |

**B: Instructional materials**

|   | Items   | SD | D | N | A | SA |
|---|---|----|---|---|---|----|
| 1 | Sufficient instructional materials are provided during experiential learning activities and training sessions | 1  | 2 | 3 | 4 | 5  |
| 2 | Much time would be allotted to interact with the instructional materials                                      | 1  | 2 | 3 | 4 | 5  |
| 3 | Trainer guided us in using the instructional materials during experiential learning activities                | 1  | 2 | 3 | 4 | 5  |
| 4 | Instructional materials are relevant to experiential learning activities we were exposed to                   | 1  | 2 | 3 | 4 | 5  |

**C: Organisation of the training activities and the learning process.**

|   | Items   | SD | D | N | A | SA |
|---|---|----|---|---|---|----|
| 1 | Training involved classroom and community involvements activities | 1  | 2 | 3 | 4 | 5  |
| 2 | Training activities were organized in groups                      | 1  | 2 | 3 | 4 | 5  |
| 3 | Training activities enabled us to reflect on the experiences      | 1  | 2 | 3 | 4 | 5  |
| 4 | Training activities encouraged active observation                 | 1  | 2 | 3 | 4 | 5  |

**D: Role of lecturers during the training activities**

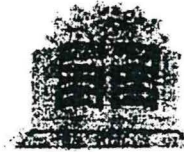
|   | Items   | SD | D | N | A | SA |
|---|---|----|---|---|---|----|
| 1 | Provided opportunities for active learning          | 1  | 2 | 3 | 4 | 5  |
| 2 | Provided a variety of learning activities           | 1  | 2 | 3 | 4 | 5  |
| 4 | Provides clear instructions and explanations        | 1  | 2 | 3 | 4 | 5  |
| 5 | Provided opportunities for application of knowledge | 1  | 2 | 3 | 4 | 5  |
| 6 | Provided tasks that meet our skill needs            |    |   |   |   |    |

## **Appendix 5: Observation checklist**

1. How learning activities are organized.
2. The modes of delivery used by teachers.
3. The duration of the various activities.
4. Instructional materials used
5. Interaction between learners and the teachers.

Appendix 6: Introductory Letter

KYAMBOGO



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**FACULTY OF VOCATIONAL STUDIES**

**DEPARTMENT OF ART & INDUSTRIAL DESIGN**

Date: 04/02/2013

To: BUKALASA AGRICULTURAL COLLEGE  
P.O. BOX 174 NOBULENZI LUWERO

RE: LETTER OF INTRODUCTION

This is to introduce Mr/Ms/Mrs OGUZU EVANS  
Registration No. 2011U1HD290MVP who is a student of Kyambogo University pursuing  
on a post graduate programme in Vocational Pedagogy.

He/She intends to carry out a research in:  
THE POTENTIAL OF EXPERIENTIAL LEARNING  
IN THE TRAINING OF AGRICULTURAL STUDENTS  
ACADEMY OF BUKALASA AGRICULTURAL COLLEGE  
as partial fulfillment of the requirements for the award of the Degree in Masters of Vocational  
Pedagogy.

We therefore kindly request you to grant him/her permission to carry out the research at your  
organization.

Any assistance accorded to him/her shall be highly appreciated.

Thank you.

Yours Faithfully,



Mugisha John  
Ag. Head of Department  
Art and Industrial Design

