Experiential Learning in Agriculture Education: A Zimbabwean Experience

Xavier Edziwa
University of Zimbabwe, Department of Technical Education
Box MP Mt Pleasant, Harare, Zimbabwe.

John Chakamba
University of Zimbabwe, Department of Technical Education
Box MP Mt Pleasant, Harare, Zimbabwe.

Cryton Jumo
University of Zimbabwe, Department of Technical Education
Box MP Mt Pleasant, Harare, Zimbabwe.

Misozi Chiweshe
University of Zimbabwe, Department of Technical Education
Box MP Mt Pleasant, Harare, Zimbabwe.

Abstract

The purpose of this study was to explore experiential learning of agriculture students whilst on attachment, in their second year of training. The study sought the views of twenty-four randomly selected third year students from an agriculture college in Zimbabwe. Focus was on three key areas; organisation of attachment, quality of work experience and the process i.e. the extent to which students from agriculture college easily accessed placements for farm attachment and quality of exposure students got. The study also looked at students' perceptions of the worthiness of the exposure in terms of production technologies involved and quality of mentorship. Data were collected by means of questionnaire with open-ended questions. Responses were grouped according to key emerging themes. The study established, among others, that getting farm attachment, in Zimbabwe, is a nightmare for students, most farm providing attachment are operating at a low technological level and most students feel used as cheap labour as they are not given financial assistance.

Key words: agriculture training, experiential learning, farm attachment, mentee, mentorship, world of work

1. Introduction and Background to the Study

Training in agricultural colleges, in Zimbabwe, includes experiential learning in the form of farm attachment. This farm attachment is synonymous with the in-thing methodology of training (industrial attachment) which is clamoured for in student training in Zimbabwe's tertiary and higher education today (Nziramasanga Commission of Inquiry into Education and Training, 1999; Masimira, 2012) and other developing African countries (Olubenga, 2009). Farm attachment is a work related form of learning which includes a period of learning that takes place in a farm setting. Agriculture trainees, in colleges, get attached to a farm for hands-on experience, over and above what is offered at the college. Attachment for practical exposure, in agriculture education in Zimbabwe, has a duration of one year. The whole agriculture training has, therefore, a duration of three years of which the first and third years are spent at the college and second year is for attachment.

The main objective of farm attachment is to provide students with an exposure to the real world of work. Through this exercise students put into practice the theory and technical skills learnt in the lecture room. As Hackett (in Shariff 2007) reiterates, students should be initiated in both practical training and reflection grounded in real experiences rather than remaining conceptual. This further enhances professional practice as the graduate is better able to go out and contribute meaningfully in society and the work place.

Attachment of students, during part of their training, is a training methodology whose philosophical basis revolves around experiential learning theory. The underlying understanding or theory is that experience plays a crucial role in the learning process (Kolb, Boyatzis and Mainemelis, 1999). Experiential learning is defined as the process whereby knowledge is created through the transformation of experience. Experiential learning describes the form of learning whereby students have a chance to acquire and apply knowledge, skills and feelings in an immediate and relevant setting. The student directly encounters phenomena he/she is studying as opposed to visualizing (Arnold, Warner and Osborne, 2006). Experiential learning actually accords the learner room to construct knowledge, skills and values from direct experience. The experiential learning model is as depicted in **Fig 1**.
According to the experiential learning theory, there are three discrete sequential components that are crucial in accomplishing true learning and real understanding, these are:

- A concrete experience where a learner is involved in exploring or performing an activity of some kind (Enfield 2001; Kolb, 1984);
- A reflection phase in which learners share reactions and observations publicly and process their experiences through discussion and analysis (Enfield; Kolb; Pfeiffer & Jones, 1985).
- A conceptualisation phase, also called application, which deepens and broadens the learners' understanding of a concept or situation by cementing their experiences through generalizations and applications (Carlson & Maxa, 1998).

As Kolb (1984) puts it, knowledge results from the combination of grasping and transforming the experience. Grasping experience comes in two modes, namely concrete and abstract conceptualisation. Learners perceive new information through experiencing the concrete, tangible and felt qualities of the world. This is very crucial especially in subjects where skills acquisition is also an expected outcome. In transforming experiences, some learners watch carefully others involved in the experience and then reflect on what happens (reflective observation) while others may prefer doing it themselves (active experimentation).

Some skills are, therefore, best developed in a work place as technologies keep changing almost on a daily basis, making it difficult for institutions to acquire all necessary machines and equipment required for training their students. Provision of attachments allows trainees to improve their skills and knowledge in their trades, exposes them to new methods/technologies and materials, gives them a realistic and holistic impression of their trades and brings elements of realism into their training (Cort, Harkonen and Volmari, 2004). Attachments are crucial in that they link training and the world of work especially in today's world where scientific and technological advances are continuously changing.

The success of an attachment programme hinges on, among others, the competence of mentors (Sherman, Voight, Tibbets, Dobbins, Evans and Wiedler, 2000). Sherman et al, highlight the qualities of mentors as depicted in **Table 1**.

The accomplishment of mentoring however, will depend on how mentors and mentees are assigned and type of mentoring relationship (Michael, 2008; Mullen and Lick, 1999).

1.1 Statement of the Problem

Attachment of students during training at most tertiary institutions in Zimbabwe has become a norm and all institutions of higher learning have adopted the methodology. In agricultural colleges, attachment of students is predominantly farm attachment, although agro-industries play a crucial role as well. Farm attachment has been the cornerstone of Zimbabwe's agricultural training. The study sought establish whether attachments provided to students were in deed beneficial to their training.

1.2 Research Questions

The study was guided by the following research questions:

- What are the views of students pertaining the procedures of getting attachment?
- How do students view the nature of experience they get on attachment?
- How do students view the work-learning environment provided in places of attachment?

2. Methodology

This was a case study of one agricultural college, in Zimbabwe. The target population were third year students pursuing a diploma course in Agriculture, delimited to those that had been attached to farms. Third year students were preferred for they had been on attachment the previous year. Twenty-four out of forty students were randomly selected from those students who had come for a one-week camp agricultural colleges' sports gala. Consent was sought from the participants and were assured the information gathered would be treated with the strictest confidentiality it deserved. An open-ended questionnaire was used for collecting data, focussing on three key areas; organisation of attachment, quality of work experience and the process. Open-ended questions were preferred because they allow researchers to better access the respondents' true feelings on an issue (Chilisa and Preece, 2005; Borgdan and Biklen, 1992). The questionnaires were distributed and collected by the researchers. They were also collected on the same day they were issued out, achieving a 100% return rate.

3. Results

3.1 Students' views pertaining the organisation of attachment

Students were asked to express their views pertaining the practice of asking them to look for own attachment. Most students said they were not of the idea. Among the reasons given were:

- Looking for own attachment made the whole exercise a burden for students who were 'less connected'.
- Most students would go for long periods before getting attachment.
- Some students end up attached to places that are less relevant to their training.

3.2 Quality of experience got on attachment

There was a wide spread of views put across by the respondents. The following emerged as key responses:

- Most of the mentors were less knowledgeable.
- Some students felt had been used as cheap labour.
- Technology level was rather low in most places of attachment.
- Rather squalid living conditions.
- Some respondents found the attachment very relevant.

3.3 The whole process of farm attachment

Respondents were asked what they did not like most while on attachment i.e. to comment on the working-learning conditions they were exposed to. Generally most respondents expressed that the conditions were satisfactory but cited the following as setbacks:

- Lack of college follow ups resulting in making students prone to abuse as cheap labour.
- College not clearly spelling out expectations, as a result some workforce at attachment places became hostile. The workforce viewed students, attached, as competitors for the few financial resources available.
- There was general lack of allowances for the upkeep of students while on attachment.
- Lack of off-days, working days included week-ends.

Respondents were also asked what they liked most on attachment. The following emerged as key responses:

- Students were exposed to some processes which were treated rather abstractly at college.
- Attachment gave students chance to participate in production processes.
- Attachment enabled students to build contacts.
- Some students had already been promised jobs, following their performance on attachment.

4. Discussion

In terms of organisation, respondents were of the view that the college should have assisted them acquire attachment places. For most respondents, the less connected had torrid times looking places of attachment. This probably explains why most of the respondents highlighted that it took them considerable time to get places of attachment. This finding seems to be in agreement with a study by Wodi and Dokudo (2009) of Student Industrial Work Experience Scheme (SIWES) in Nigeria, who found out that 59% of the students in the scheme found it difficult to get a place of attachment with their employer. The difficulties encountered could also be the reason why some ended up attached to less relevant places.

In this context, less relevant places refer to attachment places that lack adequate material and human resources to create a favourable environment for mentees to get proper exposure. Some institutions in developed and developing countries have circumvented problems of finding placement by creating strong relationships with related organisations (McMahon and Quinn, 1995; Tumba College of Technology, 2009 http://tct.ac.rw/index.php;Nanyang Technological University https://www3.ntu.edu.sg/opawww/aims/default.asp). According to McMahon and Quinn (1995), an industry-education initiative between institutions teaching hospitality and hotel employers' groups in UK created a strong partnership that has seen students getting easy access to placement in the industry. In Malaysia, Universiti Teknologi Malaysia (UTM) developed, using MS Access, a directory of industries that once offered places for attachment to students. Students apply personally for places to the industries listed in the directory (Zaini, Songip, Manan and Kidam, http://eprints.utm.my/730/).

With regards to quality of experience, respondents were of the view that their mentors were not that knowledgeable. This could possibly be due to the fact that agriculture in Zimbabwe has a lot of new players, in the form of the black indigenous farmers (Mutisi, 2009) who are yet to fully expand their farming businesses and recruit qualified agriculture personnel to run the farms. In this view the assertion by the respondents that they felt used as cheap labour, especially if they ended up being the key originators of ideas at the farms. However, the issue of cheap labour could be an indicator of inadequate communication between the college and providers of attachment places. As Smith (1994) established, students while on industrial attachments, may be regarded as 'just another pair of hands' and may not be given adequate training experience or even the most basic supervisory role, especially in cases where coordination is inept. One other striking response was the low technology levels in the places of attachment. This directly affects students' experiential learning in that it impedes on both reflective observation and active experimentation which Kolb (1984) propounds to be the key ways in which students on attachment learn.

Asked to comment on what they liked most and least about the attachment programme, the respondents highlighted that the programme enabled them to be physically involved in some processes which were abstractly done at college. Some of the respondents were also able to make contacts and some were promised jobs after completing their course. Such are the benefits of letting students get attached to the real world of work. The respondents, however, were concerned that they were not given allowances to meet their own day to day needs. Among tertiary college students, this problem seems to be peculiar with agriculture college students only. Other students in tertiary colleges, for an example, polytechnic colleges and apprentices are funded by the Zimbabwe Manpower Development Fund (ZIMDEF, 2010). Lack of financial assistance for students while on attachment is also of major concern when it comes to university students (Masimira, 2012). There were also complaints that the college did not make follow ups. Lack of follow ups may create a gap between what a provider of attachment place offers and college expectations. In a related study by Blunden (2000), mentors cited a lack of guidance from the university as one major difficult aspect in effectively mentoring.

5. Conclusions and Recommendations

Basing on the findings from this study it can be concluded that finding places of industrial attachment in agriculture inclined establishments is proving difficult for most students during agriculture training. This may result in students at times getting attached to places that are not relevant their needs. The farms providing the bulk of attachment places, however, have a limitation in terms of technology upgrading. This tends to affect the quality of experiential learning students get. The quality of mentorship is generally low in most centres of placement. The study, therefore, recommends that agriculture colleges should consider making permanent linkages with farms and agro-industry to ease accessing attachment for their students. The linkage can also be helpful, even during curriculum improvements as the provider of attachment may have an input in terms of what the real world of expect of graduates from the colleges. There is also need for agriculture colleges to familiarize themselves with some of the organisations that purport to provide attachment places for students. This helps the college to determine whether a student's attachment is worthwhile or not. The government should seriously consider funding farmers, as they are an emerging source of placement areas for agriculture students. Funding of these farmers is crucial in that it may enable them to mechanise and provide students worthwhile attachments.

The government, through Zimbabwe Manpower Development Fund (ZIMDEF), should consider including agriculture students for funding, bearing in mind that most end up attached in some farms where there are limited financial resources.

References

Arnold, Warner and Osborne, 2006. Experiential learning in secondary agricultural education classrooms. *Journal of Southern Agricultural Education Research. 56: 30-39.*

Bogdan RC and Biklen SK 1992 Qualitative Research for Education: An Introduction to Theory and Methods. Boston: Allyn and Bacon.

Chilisa, B. and Preece, J. (2005). Research Methods for Adult Educators in Africa. Hamburg: UNESCO, Institute of Education.

Chiweshe, M. Motsi, E. and Edziwa, X. (2011). Organisation , Quality and Challenges in the B.Ed Technical Education Degree Industrial Attachment Course, University of Zimbabwe. *Zimbabwe Journal of Educational Research*

Cort, P., Harkonen, A. and Volmari, K. (2004). *PROFF: Professionalisation of VET Teachers for the Future* (Luxembourg: Office for Official Publication of the European Communities, CEDEFOP Panorama series, no. 104).

Kolb, D.A. (1984). Experiential Learning: Experience as the Source of Learning and Development. New Jersey: Prentice Hall.

Kolb, D.A., Boyatzis, R.E. and Mainemelis, C. (1999). Experiential learning theory: previous research and new directions.

Masimira, F. (2012). Report on Ministry of Higher and Tertiary Education: Consultative meeting on industrial attachment for university students. 21st February 2012 Management Training Bureau.

McMahon, U. and Quinn, U. (1995). Maximizing the hospitality management student work place experience: A case study. *Education + Training* 37:13-17.

Michael, A. (2008). Mentoring and coaching. Available at http://www.cimaglobal.com/Documents/Thought_leadership_docs/MigratedDocsMarch2010/Resouces%20(pdfs)/Topic%20gateways/Mentoring%20and%20coaching.pdf Accessed on 30 March 2010.

Mullen, C.A. and Lick, D.W. (1999). New directions in mentoring: creating a culture of synergy. London: Falmer Press.

Mutisi, C. (2009). Situation analysis of agricultural research and training and support strategies for the national agricultural research system in Zimbabwe. Phase 3 Report. Retrieved from www.sadc.int/fanr.

Nanyang Technological University (2008). "Attachment and Internship Management System at NTU" https://www3.ntu.edu.sg/opawww/aims/default.asp Accessed 22 July, 2010.

Nziramasanga Commission (1999). Report of the Presidential Commission of Inquiry into Education and Training (in Zimbabwe). Harare: Government Printers.

Olugbenga, A.F. (2009). Towards Effective SIWES Curriculum Development in Applied Sciences for Adequate Skills Utilization: A Case Study of the School of Applied Science, Nuhu Bamalli Polytechnic, Zaria. *The Pacific Journal of Science and Technology. 10:234-239*

Shariff, S.M. (2007). "An Effective Industrial Practicum Training Programme for Operations Management Students in Malaysia University Putra Malaysia." http://2.bp.blogspot.com/_LvKacQhzrZc/SbvFLGTouaI/AAAAAAAAALY/ct2Ury6FWMk/s320/UPM_gif.gif

Sherman, R., Voight, J., Tibbetts, J., Dobbins, D., Evans, A. and Weidler, D. (2000). Adult educators guide to designing instructor mentoring. Available at http://www.calpro-online.org/pubs/mentoring%20Guide.pdf Accessed on 10 March 2012.

Smith, D. (1994). How Do We Develop a Working Relationship Between the Colleges and the Hotel and Catering Industry to Mutual Advantage *Proceedings of the Third Annual Conference on Human Resource Management in the Hospitality Industry*, London.

Tumba College of Technology (2009). "*Industrial Attachment*" Available at http://tct.ac.rw/index.php Accessed 20 July, 2010.

Wodi, S.W. and Dokudo, A. (2009). Appraisal of students industrial work experience scheme (Siwes) in five tertiary institutions in River State Nigeria. *European Journal of Social Sciences* 7: 42-51.

Zaini, M.A.A., Songip, A.R., Manan, Z.A. and Kidam, K. Industrial training programme in the department of chemical engineering, UTM: lessons learnt. Available at http://eprints.utm.my/730/ Accessed on 03 August 2010.

Zimbabwe Manpower Development Fund (2010). Approved training eligible for ZIMDEF rebates. Available at www.zimdef.org.zw/index.rebates&items. Accessed on 25 July 2012..

Appendix

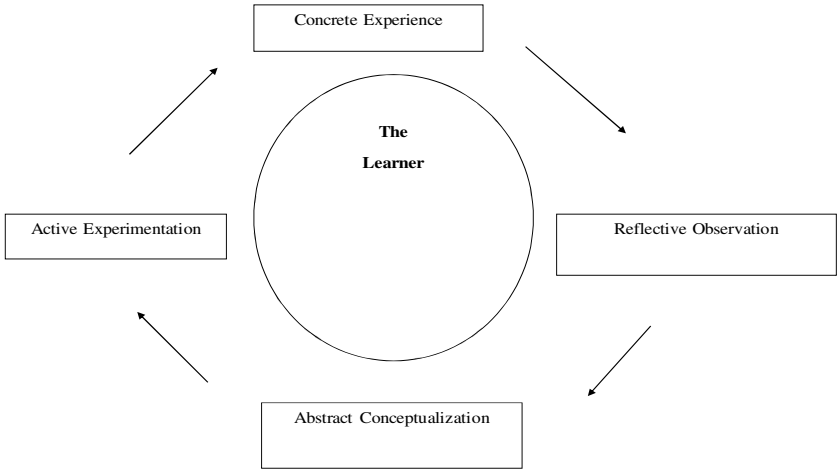

Figure 1. Kolb's Model of Experiential Learning (Adapted from Arnold, Warner and Osborne 2006:32)

Table 1: Skills and knowledge needed by mentors.

Skills, Knowledge Area	Mentors
Interpersonal	are amiable, patient, compassionate, empathic, and honest, self-confident, are open and friendly.
Communication	can pick up on protégés' verbal and nonverbal cues, recognize and understand different communication styles, and are skilled in conflict resolution.
Listening	are active listeners, listen for what is not said, as well as what is said.
Content Area	are experts in the areas in which their protégés require assistance, have a broad knowledge base in their field. Keep up with current trends and latest research.
Awareness of Diversity	are sensitive to protégés' individual learning styles, are comfortable with people of diverse backgrounds. Can accept different points of view.
Reflective Supervision Skills	engage in self-reflection. Have strong skills in observing and giving feedback. Build on past experience to advise and assist protégés with their current dilemmas.

Source: Sherman, Voight, Tibbets, Dobbins, Evans and Wiedler (2000:19)