Farm Attachment as a Training Methodology for Zimbabwe Agricultural Colleges’ Students, Post Land Reform: Challenges Encountered

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Abstract
The purpose of this study was to describe the problems faced by students in agricultural colleges in Zimbabwe while on industrial/farm attachment, post the land reform programme. The study also sought to establish, among others, the extent to which students from agricultural colleges in Zimbabwe easily accessed placements for industrial attachment and quality of exposure students got. Focus was on students’ perceptions of the worthiness of the exposure in terms of production technologies involved, type of mentorship and the diversity of activities while on attachment. Snowball sampling technique was used to select 84 third year students from 5 agricultural colleges. Data were collected using a 4-point Likert scale questionnaire. The study established, among others, that students had difficulties getting places of attachment, A2 farms provided the bulk of attachment places but the technology levels in the A2 farms were low. Female students appeared less preferred by mentors when compared to their male counterparts. It was also noted that some students strongly felt they were used as cheap labour during attachment. This study benefits scholars and planners who have a keen interest in industrial attachment procedures for agriculture trainees, especially in developing countries.

Keywords: industrial/farm attachment, experiential learning, agriculture training, mentorship, land reform

INTRODUCTION
Training in agricultural colleges, in Zimbabwe, have since time immemorial included 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 higher education today (Nziramasanga Commission of Inquiry into Education and Training, 1999; Masimira, 2012). Industrial attachment is a work related form of learning which includes a period of learning that takes place in a work setting. Agriculture trainees, in colleges, were and are still expected to be attached to a farm or an agro-industry for hands-on experience, over and above what is offered at the college. Attachment for practical exposure has duration of one year.

The main objective of industrial 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.

Large-scale commercial farms and estates used to be the major providers of attachment places for students from agricultural colleges in Zimbabwe. Following the Fast Track Land Resettlement Programme (FTLRP) in early 2000, some large-scale commercial farms were re-demarcated into A1 and A2 lots. In the A1 model, households were resettled in demarcated villages with each family allocated five arable hectares of land. In addition, there was a communal grazing area for each of the demarcated village. The A1 model is smallholder in nature and is unsuitable for student placement, by virtue of lack of expertise and technologies in the sector. The A2 model consist of self-contained farming units of variable sizes (Mutisi, 2009). For convenience’s sake, A2 in agriculture in this study included the former small-scale farms and the new self-contained farming units. The new agrarian structure needed to be examined to determine whether it is worthy in offering farm attachment. In some developing countries placement of trainees is becoming problematic such that trainees end up being attached to centres that do not match their expectations (National Higher Education Research Institute, 2004). In Ghana, it was established that new owners of enterprises that used to offer on-the-job training for university students during vacation were not interested in the programme (Ministry of Finance and Economic Planning, 2006).
THEORETICAL FRAMEWORK
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 Manemelis, 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. In experiential learning, the engagement of the body and mind through activity, reflection and application tends to provide depth and meaning to a learning/training system. 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.

As Kolb (1984) puts it, knowledge results from the combination of grasping and transforming 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). Others prefer doing it themselves (active experimentation).

Some skills are 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 update their skills and knowledge in their trades, exposes them to new methods 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.

For a student to maximize experiential learning during farm/industrial attachment, it is imperative that the place of attachment be relevant to the needs of a student’s programme. Relevance in this context encompasses nature of activities at the place, technology that is in sink with current trends and appropriate mentorship.

STATEMENT OF THE PROBLEM
Farm attachment has been the cornerstone of Zimbabwe’s agricultural training, especially for the diploma programme. Large scale commercial farms used to provide the bulk of attachment places for agriculture diploma students. Zimbabwe embarked on a massive FTLRP that led to a new agrarian structure in which most of the large scale farms that used to offer farm attachments were re-moulded into smallholder farms, equivalent in size and operation to communal lands. There was therefore need to find out the nature of attachment agriculture student were exposed to, in the new agrarian structure, and the challenges they faced.

RESEARCH QUESTIONS
The study was guided by the following research questions:

i. What are the major sources of attachment places for agriculture students in the new agrarian set up?

ii. How easy is it for students to get attachment places in the new agrarian set up?
iii. How equipped are the attachment places in the new agrarian set up?
iv. What is the quality of mentorship at attachment places in the new agrarian set up?

**IMPORTANCE OF THE STUDY**

This study highlights the potential areas and issues that industrial attachment officers may be wary of when planning and running industrial attachment programmes, in Agriculture institutions. It also highlights the potential role that has not been tapped from smallholder farms, in the training of productive Agricultural personnel, essential for national development.

**METHODOLOGY**

This study was a survey. The target population were third year students at Zimbabwe’s five diploma issuing agricultural colleges. Participants were obtained by means of snowball sampling, at a one-week camp agricultural colleges’ sports gala. The researchers first identified at least one student from each of the colleges and the identified students were asked to find college-mates willing to participate in the study. Ninety questionnaires were issued out to students but 6 were not returned leaving a sample (n=84) participating. Questionnaires were issued out and collected on the same day.

**Instruments**

The researchers adopted and modified a questionnaire that was used by Chiweshe, Motzi and Edziwa (2011). Chiweshe et al used a 4-point Likert scaled questionnaire to find out how B.Ed Technical students at the University of Zimbabwe rated the quality of the industrial attachment component of their programme. Concepts on mentorship were borrowed from Berk, Berg, Mortimer, Walton-Moss and Yeo (2005).

**Data Analysis**

Data were coded and then analysed using SPSS Statistics 17.0 for windows. Descriptive statistics (means and standard deviations) were used to analyse the data. Mean scores below 2.00 were deemed to show students’ disagreement with a statement while a mean score equal to or greater than 2.00 signalled student agreement with a statement.

**RESULTS AND DISCUSSION**

**Areas offering attachment**

Table 1: Number of participants by sex and place of attachment (n=84)

<table>
<thead>
<tr>
<th>Place of attachment</th>
<th>Gender</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>A2 farm</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>Large scale farm/estate</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>Agro-industry</td>
<td>11</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
<td>43</td>
</tr>
</tbody>
</table>

It emerged that A2 farms were the main source of attachment places for the students. This is reminiscent of the land reform programme in which most farms have either been converted to resettlements or A2 (small-scale). Large-scale farms seemed to have played a relatively large role as well in availing attachment places. The demographic variables were used as independent factors in further analysis, where standard deviations in means of dependant variables were high.

The rest of the research questions were answered using data from Table 2.

Table 2: Mean responses of students to statements on attachments. (n=84)

<table>
<thead>
<tr>
<th>Statement</th>
<th>n</th>
<th>Min</th>
<th>Max</th>
<th>Mean (X)</th>
<th>S.D</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Securing attachment was easy</td>
<td>84</td>
<td>1</td>
<td>4</td>
<td>1.83</td>
<td>.876</td>
<td>Disagree</td>
</tr>
<tr>
<td>2 Place of attachment was adequately equipped</td>
<td>83</td>
<td>1</td>
<td>4</td>
<td>2.77</td>
<td>.650</td>
<td>Agree</td>
</tr>
<tr>
<td>3 Level of technology was high</td>
<td>84</td>
<td>1</td>
<td>4</td>
<td>1.96</td>
<td>.950</td>
<td>Disagree</td>
</tr>
<tr>
<td>4 There was a diverse of activities</td>
<td>84</td>
<td>1</td>
<td>3</td>
<td>2.50</td>
<td>.526</td>
<td>Agree</td>
</tr>
<tr>
<td>5 Learnt a lot while on attachment</td>
<td>84</td>
<td>1</td>
<td>4</td>
<td>2.87</td>
<td>.673</td>
<td>Agree</td>
</tr>
<tr>
<td>6 I was treated as cheap labour</td>
<td>84</td>
<td>1</td>
<td>4</td>
<td>2.25</td>
<td>.892</td>
<td>Agree</td>
</tr>
<tr>
<td>7 My mentor was accessible.</td>
<td>84</td>
<td>2</td>
<td>3</td>
<td>2.74</td>
<td>.442</td>
<td>Agree</td>
</tr>
<tr>
<td>8 My mentor was approachable</td>
<td>84</td>
<td>1</td>
<td>3</td>
<td>2.95</td>
<td>.265</td>
<td>Agree</td>
</tr>
<tr>
<td>9 Mentor was helpful in providing direction and guidance</td>
<td>83</td>
<td>1</td>
<td>4</td>
<td>2.53</td>
<td>.770</td>
<td>Agree</td>
</tr>
<tr>
<td>10 My mentor acknowledge my contributions</td>
<td>84</td>
<td>1</td>
<td>4</td>
<td>2.63</td>
<td>.757</td>
<td>Agree</td>
</tr>
</tbody>
</table>

Source: Field Data  \( X \geq 2.00 \) Agree

**Accessing Attachment Places**

Students were asked to indicate their level of agreement with the statement that securing attachment was easy. Overall, students disagreed that securing attachment was easy. Further analysis by sex, showed that female students expressed that finding attachment was a problem whilst most male students found it easy. This cannot be ruled out as there is general belief among most societies that females cannot partake competently in work domains that are predominantly male. A further analysis of easy access to attachment was also done against place

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**Table 1:** Number of participants by sex and place of attachment (n=84)

- **Place of attachment:**
  - A2 farm: 15 females, 20 males (35 total)
  - Large scale farm/estate: 14 females, 15 males (29 total)
  - Agro-industry: 11 females, 8 males (19 total)
- **Total:** 41 females, 43 males (84 total)
of attachment. Students attached to A2 farms and agro-industries disagreed.

Level of Mechanization
The researchers checked on the status of the place of attachment by asking students to indicate their level of agreement with the statements: ‘Place of attachment was adequately equipped, Level of technology was high, Learnt a lot while on attachment and There was a diverse of activities’ (statements 2-5). Students agreed that the places were adequately equipped, learnt a lot while on attachment and there were diverse activities. The students, however, disagreed that technology was high. Further analysis of the technology level by place of attachment revealed that students who were attached to A2 farms felt their places of attachment were not technologically apt. On the contrary students who were attached to large-scale farms and agro-industries expressed that their places had better technology levels. From the results, it can possibly be deduced that most places of attachment were adequately equipped but the level of technology varied much. It can also be deduced that students were exposed to a diverse of farming activities.

Before the year 2000, land-owning farmers had large tracts of land and utilized economies of scale to raise capital, borrow money when necessary, and purchase modern mechanized farm equipment to increase productivity on their land. This was beneficial to agriculture training as students were always exposed to technologies that were in-keeping with trends in the region and other developing countries. The same cannot be said about the A2 farmers. The general lack of up-to-date technology could be a signal that, should measures not be taken early, agricultural colleges may end up producing graduates who are acquainted in obsolete technology. The decade of economic melt down, experienced in Zimbabwe, hit hardest A2 farmers, most of whom settled in farms whilst they had little or no machinery to talk of, whilst others took over whatever was left by the previous farmer. These are the very farmers who now provide attachment places for the students.

Quality of Mentorship
The nature and quality of mentorship was examined by asking students to indicate their level of agreement with statements: ‘Mentor was accessible, Mentor was approachable, Mentor was helpful in providing direction and guidance and Mentor acknowledged my contributions’ (statements 7-10). They agreed with all statements but the statements ‘Mentor was helpful in providing direction and guidance and Mentor acknowledged my contributions’ had high standard deviations. Further analysis of the responses to statement; ‘Mentor was helpful in providing direction and guidance’ by place of attachment revealed that large-scale farms and agro-industries were more helpful in providing direction and guidance to students while students attached in A2 farms felt mentors were not helpful. This could possibly be due to the fact that generally large-scale farms and agro-industries are manned by personnel that has requisite knowledge and skills in the agricultural sector. Analysis of the responses to statement; ‘Mentor acknowledged my contributions’ by placement revealed that students attached to A2 farms and agro-industries had mentors acknowledging their contribution whereas mentors in large-scale farms did not acknowledge students’ contributions. It is most likely that A2 farmers needed to tap as much knowledge, from the students, as possible. It is very common to find A2 farms being manned by forepersons who do not have proper training in Agriculture, as most owners may not have adequate financial resources to employ trained agriculturalists. In such cases, attached students end up knowledge at the farm. This probably explains why mentors in A2 farms readily acknowledged contributions from the attached students.

An enquiry was also made on the general up keep of students while on attachment. Students were asked to express the extent to which they agreed or disagreed with the state ‘I was treated as cheap labour’. Students agreed with the statement. Further analysis by place of attachment showed that students who were attached to large-scale farms and agro-industries disagreed with the statement. It was students attached to A2 farms who expressed that they were treated as cheap labour. In Zimbabwe, it is not mandatory that a student on attachment be paid something, of which farm owners and industry are aware. Remunerating students whilst on attachment is purely on humanitarian grounds, it is not a right that the student be paid. The Zimbabwean government has funds to support students on attachment (Zimbabwe Manpower Development Fund, 2010) but unfortunately students from agricultural colleges are not covered. The funds cover apprentices and students in polytechnic colleges.

CONCLUSIONS AND RECOMMENDATIONS
Basing on the findings from this study it can be concluded that finding places of industrial attachment in agriculture inclined establishments was difficult for most students during agriculture training. Female students appeared less preferred by mentors when compared to their male counterparts. The new agrarian structure saw A2 farms providing the bulk of attachment places, however, they had limitations in terms of technology upgrading. This can affect the quality of experiential learning students get. The quality of mentorship was generally high in most centres of placement. The study, therefore, recommends the following:

- Agriculture colleges should consider making permanent linkages with agro-industry and
farms to ease access to attachment for their students.

- There is 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 A2 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 A2 farms where there are limited financial resources.

REFERENCES


