

Improving graduate competencies through field attachments: Experiences from the School of Agricultural Sciences, Makerere University

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Abstract

The demand for skilled university graduates to address practical development challenges is higher today than ever before. Field attachment is one of the main approaches for integrating competence building into academic programmes in many universities. While this practice has been going on in Makerere University for a long time, little is understood about the students' own perception of the program and thus its effectiveness. To get insights into the students' own perspective of the program, a review of 150 student field attachment reports submitted in the five undergraduate programs of the School of Agricultural Sciences, Makerere University for the years 2011, 2012 and 2013 was undertaken. The aim of the study was to establish the impact of the field attachment on students from their own reported experiences and its implications for university-community engagement. Students report of benefiting in terms of practically acquiring technical as well as soft skills. However, there is still low acquisition of entrepreneurial and marketing skills especially among the 'hard science' programmes. As lessons, being practically skilled, creative and a team player stand out as desired attributes for effective work in the field. For the amount of activities the students are exposed to, the duration of the internship is too short for meaningful skills acquisition. There is need to review the internship period as well as strengthening supervision in order to enhance skills acquisition and networking as a way of influencing development of long-term university-community engagement.

Key words: Challenges, field attachment, lessons learnt, skills acquired

Résumé

La demande pour les diplômés universitaires qualifiés pour relever les défis pratiques de développement est plus élevée que jamais. L'expérience du terrain est l'une des principales approches pour intégrer le renforcement des compétences dans les programmes académiques dans de nombreuses universités. Bien que cette pratique soit en cours à l'Université de Makerere pendant une longue période, très peu est connu au sujet de la perception du programme par les étudiants et donc son efficacité. Pour obtenir un aperçu des étudiants sur le programme, un examen des rapports d'expérience de terrain de 150 étudiants présentés dans les cinq programmes de premier cycle de l'Ecole des Sciences Agricoles de l'Université de Makerere pour les années 2011, 2012 et 2013 a été réalisé. Le but de l'étude était de déterminer l'impact de l'expérience sur le terrain par les étudiants de leurs propres expériences rapportées et ses implications pour l'engagement universitaire-communautaire.

Les étudiants signalent de bénéficier en termes de pratiquement acquérir une expérience technique ainsi que les compétences non techniques. Cependant, l'acquisition de compétences entrepreneuriales et de marketing est encore faible, en particulier entre les programmes «scientifiques pures». Comme leçon, le fait d'être pratiquement qualifié, créatif et avoir l'esprit d'équipe, ce qualités se démarquent comme attributs souhaités pour un travail efficace sur le terrain. Pour la quantité d'activités à laquelle les élèves sont exposés, la durée du stage est trop courte pour l'acquisition de compétences significatives. Il est nécessaire de revoir la période de stage ainsi que le renforcement de la surveillance afin d'améliorer l'acquisition des compétences et la mise en réseau comme un moyen d'influencer le développement de l'engagement à long terme entre universitaire-communauté.

Mots clés: les défis, l'attachement de domaine, les leçons apprises, les compétences acquises

Background

Over the years, university graduates albeit with excellent academic grades have made little impact in influencing social development. In a bid to respond to this concern, field attachment (internship placement) is considered in many universities as one of the approaches for integrating competence building into academic programmes (Clifford and Petrescu, 2012). Makerere University School of Agricultural Sciences (SAS) in addition to making field attachment examinable and thus compulsory emphasizes this approach to provide opportunities for students to acquire practical skills in supervised real life situations. Internship programme is part of the response to the immense demand on universities to produce competent and responsive professionals who are better equipped to tackle realities in the field. The aim is for students not to parade excellent academic grades alone but being able to translate the grades into improved services in communities (action with impact). The interest is on producing graduates who are capable of addressing practical development challenges in the agricultural sector appropriately. Undertaken for ten weeks, field attachment programme is mandatory to all students in the school of agricultural sciences. Every student participates in field attachments at the end of second year for the three year programs and end of third year for the four year programs.

The structure of the programme includes pre-placement activities where academic supervisors visit potential organisations for the student attachment and discuss with the staff on what is expected of the student and the organisation; briefing of the students in preparation for their attachment with the objective of making the students clear on what is expected of them; supervision in the field; presentations to both the host organisation and the department; and submission of a field report. Prior to going to the field, students are provided with logbooks in which to record their daily/weekly activities, major achievements and reflections. To make the attachment more affordable especially to the students given the need to minimise costs, students are encouraged to identify potential attachment organisations by themselves. The school (SAS), through the internship coordinator, provides the students with introductory letters to the organisations who in turn issues the student with an acceptance letter on agreeing to host. The organisation assigns a field supervisor to the intern who provides guidance on a regular basis. During the ten weeks of attachment, each student receives

two visits from academic supervisors: the first visit is often scheduled around the fifth week while the second one is around the 8th / 9th week. The idea behind the academic supervisors' visits is to ensure the students are doing their part as expected and to provide guidance that helps the student to focus. At the end of the internship, the students submit a report, whose structure is often provided in advance in the log books, for grading.

The field attachment/internship programme has been ongoing for over ten years now. Volumes of students' attachment reports are piled in the school every year. A lot is in the reports and is expected to be used in improving the subsequent internship programme for the better as well as trace the extent to which the intended objective is reflected in the reports. Apart from individual supervisors reading the students' attachment reports for grading, there has been no effort taken to analyse the students' reported learning and tease out issues that could be used to enhance the internship programme. This investigation seeks to reflect on the students' internship reports and come out with a synthesis of issues that point out the learning that actually occurs and how this could be used as an input to (re)shape the programme or its components. This study will give insights into the extent to which internship activities realistically enhance learning that informs further improvement of theory and practice.

Literature summary

Field attachment is meant to provide field experience to aid learning and appropriate positioning in the job market. It is one of the approaches for implementing university-community engagement (Milton *et al.*, 2012) and through which experiential learning is promoted. Experiential learning (Kolb 1984), through action and reflection, helps interns to make sense of their environment, a process referred to by Moon (2004) as effective learning. Socio and technical skills gained by university graduates (in the agriculture related fields) are crucial in the much desired strengthening of engagement between farming communities and universities. For these skills to be applicable, the gap between university knowledge and what the field requires has to be bridged by participation of other stakeholders in training (Northmore and Hart, 2011). In this way, in addition to improving their technical competencies, the conceptual and management (soft) skills gap identified in the graduates (Kibwika, 2006; Salvaratnam, 2013) can be addressed. With the increasingly changing and multicultural working environment, graduates field attachments enable students acquire interdisciplinary and trans-disciplinary competencies (Adomâent *et al.* 2014; Lambrechts *et al.* 2013) in order to positively influence real development processes. Elsewhere, students have been found to gain cognitive experience by reflecting on field activities and processes during field attachment (Salvaratnam, 2013).

Study methodology

As part of a wider (PhD) study to establish factors affecting establishment of long term university-farming community engagement, a review of students' field attachment reports and logbooks was undertaken at the SAS, Makerere University. The study focused on five undergraduate programmes of BSc. Agriculture (BSc. Agric.), Bachelor of Agricultural and

Rural Innovation (BARI), Bachelor of Horticulture (HOT), Bachelor of Agribusiness Management (AGBM) and Bachelor of Land Use and Management (LUM). A total of 150 final field attachments reports submitted in the years 2011, 2012 and 2013 were sampled for review. Ten (10) reports (5 each for male and female students) were sampled from each of the 5 programmes through the three years. Data was collected on activities undertaken by students during the internship, skills acquired, lessons learnt, challenges faced, students' perceived benefits of the attachment programme and areas for improvement. Using content analysis, data was categorised into emerging themes and patterns (Miles and Huberman 1994) which were coded and summary frequencies generated using STATA computer package to: i) establish the extent of learning and skills acquired by the student; ii) Determine the value students attach to field attachment and its implications for improving graduate training for a responsive university-farming community engagement.

Research application

Preliminary findings from the review of the students' reports and logbooks indicate practical acquisition of, technical and soft skills during field attachment (Table 1). More students (91%) being placed in crop than livestock based organisations acquired crop husbandry skills. The least acquired technical skills were in agro-processing (13%) and marketing (15%) with only students of AGBM followed by BARI ranking high in the same. Facilitation and management skills were the most acquired soft skills at 80% and 67%, respectively. There was low acquisition of entrepreneurship (25%) and communication (47%) skills reported.

In terms of lessons learnt, Figure 1 presents attributes student noted as critical for one to be confident in the field and be respected by others. Key among these is the value of having practical skills (24%), being a team player (20%) as well as creativity empathy and good communication skills were recorded as very important for success work with communities and places of work.



Figure 1. Lessons learnt.

Table 1. Skills acquired by students from field attachment.

Bachelor Programmes (n)	Technical skills (%)				Soft skills (%)				Average
	Crop husbandry	Animal husbandry	Processing	Marketing	Management	Communication	Entrepreneurship	Facilitation	
Agriculture (29)	83	69	0	0	62	59	10	93	52
Agricultural & Rural Innovations (30)	100	60	13	17	90	23	30	100	59
Horticulture (22)	86	18	0	4	41	45	18	59	40
Land Use Management (24)	100	50	4	4	15	67	25	71	47
Agribusiness Management (30)	87	50	40	43	70	47	40	70	59
Average (n = 135)	91	51	13	15	67	47	25	80	

The key reported benefits of the attachment programme (Fig. 2), include exposure to real life situations (93%) focusing ones career (84%) gaining practical experience (76) rank highest while issues of networking and gaining avenues for future employment were recorded. Overall, the main challenges reported included (Fig. 3): Inappropriate timing and duration (76%) - duration is very short given the myriad of activities that the students ought to participate in. The internship commences at the tail end of the first cropping season and ends just as the second season begins, curtailing practical exposure to most field activities. The other challenge is supervision (72%). The only two academic visits limit interaction with the student hosts more so the field supervisor in order to make clear the learning requirements and evaluation approaches for the extent of skills development by the interns. Organisation selection for placement (55%) is also a challenge to students in terms of

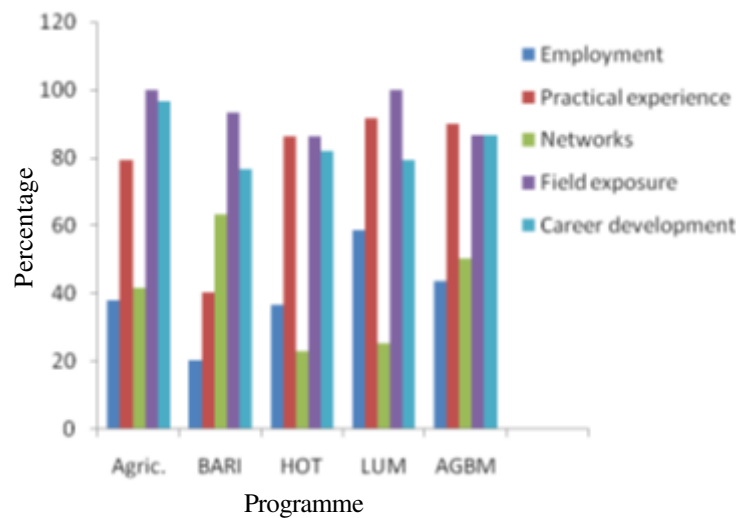


Figure 2. Benefits of field attachment.

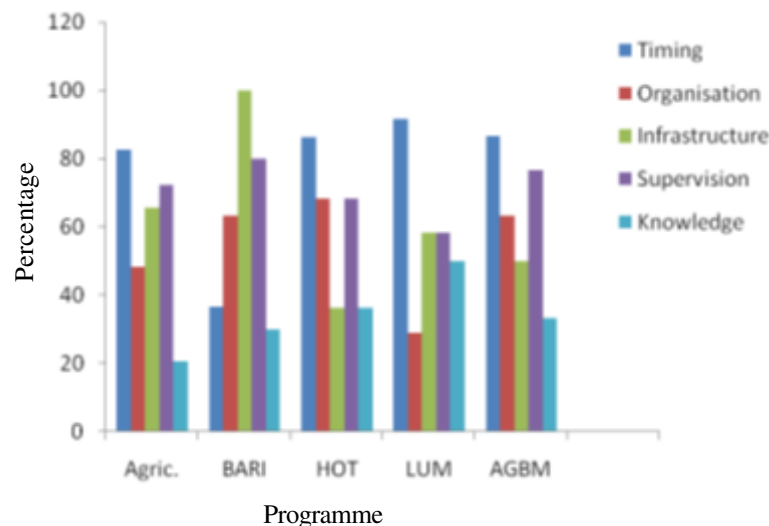


Figure 3. Challenges of field attachment.

language barrier for some students and above all limitation in the scope of activities for comprehensive learning.

The findings point to need to: (1) Review the period and timing of field attachments based on cropping seasons; (2) Improve assessment by increasing the role of field supervisors in the assessment and exploring alternative ways of evaluating students' practical skills all through the course. (3) Identify and strengthen collaboration with private and public organizations suitable for comprehensive training of interns or have students rotated in different organizations for comprehensive skills exposure.

Field attachment provides opportunity to improve students' competencies thereby making them relevant to community development challenges. Limited entrepreneurship and marketing skills acquisition among agricultural students needs to be addressed being critical in development of agricultural value chains. Appropriate timing and duration of the programme will strengthen skills development as well as social networking with communities and other field-based professionals. In this way, the university training and outreach activities will improve and enhance efforts to developing a long term university-farming community engagement.

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