Promoting University–Community Alliances in the Experiential Learning Activities of Agricultural Extension Postgraduate Students at the University of Fort Hare, South Africa

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Abstract: This study examines the university–community alliance with regard to experiential learning activities that may be used to enhance the competencies of agricultural extension postgraduate students (AEPS). Through research and alliance, university education provides agricultural extension students with ideal learning spaces to explore cause-related social, economic, and sustainability aspects of agriculture. The objectives of the study were for the AEPS to work on community farms for between six to eight weeks, to identify production challenges, and to attempt to solve problems using a participatory action research (PAR) approach. Students collected data daily, using parameters that included types of agro-enterprise, agricultural practices, observation and control of pests and diseases, identification, and control of weed infestation types, control of predators, and management of various security challenges. Social media were also used to share posts (pictures and videos) of the various project activities with the public for discussion and knowledge sharing. Findings show that there was an improved relationship between the students and their community collaborators. All participants mutually benefited from the programme; students gained indigenous farming knowledge from the farmers, while farmers benefited from the scientific approaches to solving common farming problems employed by the students—mostly improvised technologies with local content. Both the students and the farmers learned from the knowledge shared by various followers on Facebook, who gave suggestions to address some of the challenges posted on social media. The programme advocates the need to shift from a mostly rigid, conventional curriculum to a more dynamic, interactive one, which embraces active experimentation with theoretical knowledge. It underscores the significance of experiential learning for developing students’ technical competencies. The success of the programme could influence curriculum development and re-design to accommodate more experience-based modules.

Keywords: university–community; alliances; action research; project; experiential learning
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lenges [1,2]. Porter [3] (p. 410) defines alliances as “partnerships formed and developed from a genuine relationship between local educators and local people, focused on addressing local conditions and needs for mutual benefit”. University–community alliances are usually a joint effort of educational institutions and their local communities [4] to find possible solutions to burgeoning problems affecting communities. In South Africa, these alliances are considered significant for social development and sustainable reforms [5]. Bassa, Petzer, and Winkler [6] expressed optimism with regard to the ability of university–community alliances to facilitate students’ sensitisation and exposure to diverse real-life experiences, their deference to and appreciation of indigenous knowledge, self-examination of their values, and enhancement of their reflective abilities to handle complex challenges in real time. All of these are significant benefits associated with students’ exposure to experiential learning.

Macchiarella and Mirot [7] described experiential learning as a “process through which students develop knowledge, skills, and abilities from direct experiences”. This learning process is germane for achieving part of Vision 2030 of the National Development Plan (NDP) for South Africa, which is to extensively develop the knowledge and skills of young and upcoming extension officers for efficient service delivery to smallholder farmers in the country. Experiential learning is an active learning process [8] that requires learners to engage in hands-on practical learning activities. Engaging students in university–community alliances through an experiential learning practice could aid in the development of skills such as communication and logical reasoning and could also provide opportunities for students to engage in civic duties, becoming socially responsible in the process [9].

In the quest to engage the Agricultural Extension Honours’ students at the University of Fort Hare (UFH), South Africa, in experiential learning, the Department of Agricultural Economics and Extension (DoAE&E), UFH, initiated an “agriculture extension students–community experiential learning” programme reflecting the UFH-community engagement principle. The approach was for students to identify farms in the community and to work with the owners for six to eight weeks using the participatory action research approach (PARA). Participatory action research has been found to play a key role in three major development areas: “community development, leadership development, and the development of lifelong learning” [10] (p. 115). An alliance between farms in the community and agricultural extension students was formed.

It is against this background that the study intends to answer the following research questions. Could university–community alliances enhance students’ experiential learning? What role can social media play in mediating students’ learning? The modus operandi was for the students to identify farm projects in the surrounding communities of the university of Fort Hare, to carry out diagnostic surveys of the farms, to recommend suggestions with local content, to implement the suggestions with the farm/community farm owners, to use some form of social media to broadcast daily farm activities, and then to present their reports using oral and poster format after six to eight weeks’ of working on the project. Ultimately, the goal was to optimise production through the application of agricultural knowledge and skills while boosting student’s knowledge.

2. Literature Review

In a university–community alliance, both parties perceive the association as a gateway to accomplishing their respective goals [1]. Such alliance is therefore a co-dependent relationship [11] that facilitates resource sharing and the pooling of diverse knowledge and skill sets, with a collective goal of addressing critical issues [12]. The higher educational system is mainly tasked with “teaching, research, and community service/engagement” [13] (p. 164). Porter [3] observed that the service/engagement component is the most obscure of the three functions, despite being a key element in educational planning. By engaging students with communities, symbiotic relationships are established, valuable experiences are gained and the academic pursuit of research for social change is achieved [10,14,15].
University–community alliances have been linked to multiple benefits. They play a key role in university curriculum development [4] and are therefore central in the effort to align Agricultural Education and Training (AET) curricula with the current issues facing South Africa’s agricultural sector. Real situational experiences from such alliances can become a resource that influences teaching and learning [13]. Porter [3] noted some potential benefits for each engaging party: (a) it is a platform for community members to benefit from the technical assistance, time, energy, resources, and know-how of the university student and staff; (b) universities are able to deliver on their mandate to engage in community development; (c) students are able to get involved in applied learning. This is in line with Lewis et al.’s [4] opinion that university–community alliances promote social change efforts and open up opportunities for student research enhancement. The review of relevant literature by some studies [2,16] also reveals other significant benefits: easy access to the research field, the facilitation of face-to-face interactions, and the collection of data, testing of hypothesis, and development of theories. It also aids evaluation of existing intervention programmes, encourages civil engagement, increases knowledge deposits in universities, and facilitates students’ experiential learning. Such experiential learning could occur in aspects such as technical skills development and project and people management [3].

Jewell and Owens [17] point to the difficulties most academics face in trying to devise ways through which students may efficiently use and retain knowledge. Experiential learning has been established by many as an ideal method for enabling students to retain knowledge [9,18–20]. It is “learning by doing or from experience” [8] (p. 7); “education through active experience and reflection on that experience” [21] (p. 134) and a “process whereby knowledge is created through the transformation of experience” [22] (p. 32). The process of experiential learning allows for collaborative engagement in actual problem-sharing and solving where students are able to learn from and with each other [23]. Generally, experiential learning creates new research opportunities, curricular integration and enhancement, active and shared learning, project development, and problem-based learning [24].

Associated benefits of experiential learning include the development of interactive and social skills [9]; it also helps to surmount stereotypical or wonted perceptions and actions [19]. Jewell and Owens’ [17] and Slade et al.’s [25] study of other relevant literature highlighted significant positive learning impacts on students’ personal, social, and learning outcomes, as students are able to establish links between abstract and practical knowledge and internalise such knowledge. In addition, students are able to develop a professional networking chain and mentoring affiliation, develop self-confidence in their knowledge and skills, and gain in-depth knowledge of prospective professions [21]. Many scholars have theorized that applied learning is critical to the competency and skills development. Kolb’s [26] experiential learning theory (ELT) for instance, largely draws attention to the certitude that having applied knowledge is central to learning and development [27–32]. Percy [33] explained the contrast between traditional and experiential learning; his viewpoint suggests that whilst new knowledge is transferred to learners in the conventional learning process, learners build on an already existing knowledge base in the experiential learning approach. In this case, learners gain added knowledge or experience from practical exposure. Drawing on Kolb’s experiential learning premise, McLeod [30] established that new experiences must be gained for new concepts to be developed. This suggests that learners’ initiative and ability to think “outside the box”—especially in providing possible solutions to critical issues—could be honed through exposure to active learning.

Agriculture may be regarded as an “artificial” ecosystem; that is, a product of the interactions of both biotic and the abiotic actions [34] towards maintaining equilibrium in the environment. The correct understanding and usage of the interactions are key to the sustainability of the environment. The United Nations General Assembly [35] (p. 43) considers sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own
needs”. Thus agriculture, properly carried out, seeks to achieve economic and social development as well as environmental protection in a balanced way. However, despite all the initiatives undertaken to raise awareness of the need to conserve natural resources, the efforts seem insignificant in the face of widespread deterioration of natural resources, which continues unabated [36] with exploration and production activities causing local and global environmental risks such as groundwater contamination, and climate change [37]. South Africa is a middle-income country, still plagued with severe food insecurity, which affected 22.5% of the population between 2014 and 2016 [38]. The unemployment rate stood at 26.7% in 2018 [39]. South Asia and sub-Saharan Africa, combined, account for 80% of those living in extreme poverty [40]. New threats brought on by climate change, COVID-19 and food insecurity mean that even more work is needed to bring people out of poverty. Undernourishment and severe food insecurity appear to be increasing in almost all regions of Africa, as well as in South America [40]. While extreme hunger and malnutrition remain a huge barrier to development at household level in South Africa [41], economic growth remains stagnant, with decreasing investment and a high unemployment rate [42]. Sustainable Development Goal (SDG) 1 of the United Nations (UN) (“No poverty”) is to end poverty in all forms and dimensions by 2030, while SDG 2 (“Zero hunger”) is to end all forms of hunger and malnutrition. SDG 8 (“Decent work, economic growth”) is to promote sustained economic growth, higher levels of productivity and technological innovation, and to achieve full and productive employment, and decent work for all women and men. SDG 17 (“Partnerships”) is to improve access to technology and knowledge by way of sharing ideas and fostering innovation. In promoting university–community alliances in the experiential learning activities of agricultural extension postgraduate students, the University of Fort Hare in South Africa addresses four of the SDGs. The programme involves promoting sustainable agriculture, supporting small-scale farmers, the use of simple technology, and opening market accessibility for farmers.

3. Project Methodology

3.1. Background

The primary objective of the action research programme is to engage agricultural extension students (Honours class) at UFH in a university–community alliance project to promote their experiential learning and become instrumental in effecting social change in the surrounding community. UFH is a public university with its main campus situated in Alice, a small town in the Eastern Cape Province, South Africa. The programme was initiated in an effort to execute a major mission of the university, that of engaging and collaborating with the surrounding communities and regions in a serving capacity.

UFH’s DoAE&E offers postgraduate degrees at Honours level in B Agricultural Extension (Hons); a one-year, full-time programme with specific module requirements, one of which is the AGX 506 module. This is a practice-based module where students are expected to carry out a literature research on diverse agricultural themes for presentation at the departmental level. Prior to 2018, students had always accomplished their tasks in the conventional manner of simply compiling and presenting a review of the literature on specific topics developed from thematic areas. However, in a bid to make the module more practical, questions were developed along the lines of “How can the Department of Agricultural Economics and Extension, UFH, contribute to fostering hope, courage, and resolve in producing a new cadre of agricultural extension personnel that could participate in a productive way in shaping their surroundings?” More precisely, the goal was to create pedagogical spaces in which committed, caring, and continuous work with nature could occur, enabling an experience of connecting and belonging, both to students’ natural surroundings and to their community.

3.2. Approach

The programme was based on a participatory action research approach (PARA) as recognised in the literature [43,44]. It is an appropriate approach for collective problem
identification and solving, empowerment and shared learning, and has been strongly linked with knowledge for action that directly benefits people, particularly the socially vulnerable and disadvantaged. The department initiated the pilot project with the 2018 Agricultural Extension Honours class. Students were placed into three separate groups and each group was assigned to do a general needs-based surveillance of the community to identify potential project locations within the Alice community. Three project sites were then purposively selected based on the severity of agricultural production challenges and urgency of intervention. Each group thereafter jointly conceived the project themes. The same project identification process was replicated for the 2019 Honours class; however, the coronavirus pandemic with subsequent national lockdown and social distancing regulations prevented the 2020 class from participating in the project.

- Stages
  - Stage 1—identification of project farm site in the community and situation analysis.
  - Stage 2—seminar presentations of the situational reports. Technical suggestions to address identified challenges and possible local resources to solve the challenges.
  - Stage 3—interactive sessions with farm owners to make joint decisions on field implementation of the approved suggestions.
  - Stage 4—results presentations via seminar paper and poster presentation.

3.3. Data Collection

The participant observations and field notes method is one of many data collection methods used in PAR [44]. According to Schensul, Schensul and LeCompte [45], participant observation is “the process of learning through exposure to or involvement in the day-to-day or routine activities of participants in the researcher setting”. Data were collected using farm-type daily record keeping that were captured in excel format. The farm type, ownership, daily activities (for crops, land clearing to harvesting, irrigation, and pest and disease control; for poultry, types of birds, number of birds, feeding and vaccination programme, diseases and pest control, bio-security aspects and farm security). The daily reports of activities were complemented by the use of social media (Facebook and WhatsApp) where activities were posted and shared. Pictures and videos of the daily activities were captured using smart phones Galaxy A5, SM-A520F. Comments from the public on social media were also used to ascertain the influence of the project among various groups of social media commentators.

The students fully participated while concurrently observing and recording all the events, processes and activities for the entire duration of the project. Thereafter, they translated and expanded on their field notes, using these notes in their group project seminars, for departmental presentations and in the design of posters, which formed part of the evaluation criteria for external examination of the module.

4. Results

Each project group created a Facebook page to share posts of the various project activities and to engage other group members and fans of the page in interactive dialogues. The Lovedale community project had the largest number of followers (528), with the Sakhisizwe Development Project having the second-largest following of about 342 members (Table 1). All groups shared pictures and videos, with the Gwebindlala Agricultural Extension Project group posting the highest number of pictures (164) and the Sakhisizwe Development Project group posting the most video contents (8) (Table 1).
Table 1. Analysis of the Facebook profiles of the group projects for the 2018 and 2019 classes.

| 2018 Agricultural Extension Honours Class | Total Number of Students | Project Theme and Fb Page Links | Type of Ownership of Project | Number of People Who Like the Page | Numbers of Pictures Posted | Number of Videos Posted |
|------------------------------------------|--------------------------|---------------------------------|-----------------------------|----------------------------------|---------------------------|------------------------|
| Gp 1                                     | 11                       | *Mhlobo Mbane Poultry Project* Rural Engagement [https://www.facebook.com/groups/1939790976331799/media](accessed on 2 February 2021). | Individual                   | 132                              | 85                        | 3                      |
| Gp 2                                     | 11                       | *Gwebindlala Agricultural Extension Project* [https://www.facebook.com/groups/2122740477752736/media/videos](accessed on 2 February 2021). | Special school                | 225                              | 164                       | 5                      |
| Gp 3                                     | 11                       | *Vuk’uhambe Agricultural Community Engagement* [https://www.facebook.com/Vukuhamb-Engagement-596620424030509/videos/?ref=page_internal](accessed on 2 February 2021). | Communal farm                 | 198                              | 45                        | 2                      |

| 2019 Agricultural Extension Honours Class | Total Number of Students | Project Theme and Fb Page Links | Type of Project | Number of People Who Like the Page | Numbers of Pictures Posted | Number of Videos Posted |
|------------------------------------------|--------------------------|---------------------------------|-----------------|-----------------------------------|---------------------------|------------------------|
| Gp 1                                     | 8                        | *Bambanani Community Project* [https://www.facebook.com/Bambanani-Community-project-UFH-Ext-Honours-Students-2019-637595930044791/videos/?ref=page_internal](accessed on 2 February 2021). | Public hospital     | 204                              | 109                       | 1                      |
| Gp 2                                     | 7                        | *Lovedale Community Project* [https://www.facebook.com/Lovedale-Primary-Community-project-1365785136919328/about/?ref=page_internal](accessed on 2 February 2021). | Community high school | 528                              | 9                         | 2                      |
| Gp 3                                     | 7                        | *Sakhisizwe Development Project* [https://www.facebook.com/Sakhisizwe-Development-Project-1245599798932064](accessed on 2 February 2021). | Special school        | 342                              | 110                       | 8                      |

Source: authors (2021).

5. Project Activities
5.1. Project 1—Mhlobo Mbane Poultry Project Rural Engagement

Project site: Mhlobo Mbane poultry farm.
Duration of collaboration: Six weeks.

5.1.1. Background

Mhlobo Mbane poultry farm was established in 2009. The primary purpose was goat production, which was discontinued due to high rates of stock theft. In 2011, it diversified
into poultry production, specialising in broiler production, which was also discontinued after the farm faced difficulties in purchasing day-old chicks because of the avian influenza that hit parts of South Africa and its neighbouring countries. The management finally settled on the production of indigenous chickens as they are more resilient to diseases and were also in demand. Its indigenous breeds include Boschveld, Potchefstroom, and Black Australorp, which are sold live in the communities and dressed to the supermarkets (e.g., Woolworths and Pick n Pay). They also sell eggs.

5.1.2. Results of the Situation Analysis

Mhlobo Mbane poultry farm is situated at Sompodo village (https://goo.gl/maps/vljjfQtfyU8bK6dB9, accessed on 3 February 2021) about 15 km from Alice town. The farm is located on a very good terrace; it has three pens measuring 38 m × 9.8 m each, with capacity for 2000 birds per pen. A section of one of the pens is used for brooding hens. The farm also has a 1000-L water tank and a 2000-egg incubator and hatcher—a fully automatic digital model. However, the farm is poorly kept. The fencing is dilapidated, the surroundings are overgrown with weeds, and most of the equipment and materials for the support of the farm are not in good condition. Parts of the roofing of the poultry pens are leaking, while there are exposed areas for predators (land and aerial) which have easy access to the pens. There is a lack of proper security measures to keep intruders and livestock such as cattle, goats, pigs, and sheep from entering the farm. There were no adequate measures for daily biosecurity and the maintenance of standard hygiene measures. The situation created a conducive environment for diseases and pests.

5.1.3. Strategic Ways of Addressing Some of the Challenges

The students did presentations to the department addressing some of the challenges. The following were approved by the university and the farmers for implementation:

1. re-fencing of the farm perimeter;
2. repair of the leaking roofs and exposed places;
3. general cleaning of the pens and the surroundings to improve bio-security;
4. the use of a footbath with disinfectant;
5. reduction in the number of visitors to the poultry house;
6. steps around diseases and pest control, prophylactic and treatment;
7. actions around farm security;
8. steps on community policing to reduce the theft of birds and poultry vandalisation.

All the strategic steps were undertaken with the poultry farmer who also shared his knowledge and experience with the students on various aspects of poultry management in which the students were not competent. For example, the farmer explained the poultry vaccination programme to the students. The students observed and assisted with the treatment of some diseases affecting birds, such as fowl coryza, for which they used the SB3 vaccine and stress pack. All the action plans were implemented with the farmers over a period of six weeks (Figures 1 and 2).
5.2.4. Results of the Situation Analysis (2018 Class)

The vegetable garden is poorly maintained; crops are overgrown with weeds, insect attack is common, and water supply to the garden is inadequate. There are no working tools for the learners to work with; they rely on their manual labour. Learners also have poor skills and knowledge about home gardening.

5.2.3. Strategic Ways of Addressing Some of the Challenges

1. the development and use of grey water for the school’s garden;
2. the training of learners on simple techniques of home gardening;
3. the establishment of a vegetable garden on the uncultivated land;
4. re-cultivation of the greenhouse garden;
5. raising funds for the purchase of simple farm tools and a hosepipe.

All the strategic plans were implemented along with the learners at the school. The learners were given training in the practical production of vegetables such as land preparation, seed/seedling transplanting, fertiliser application, pesticide usage, irrigation, weeding and harvesting. The plan to establish grey water harvesting technology was not achieved for technical and financial reasons.

5.2.4. Results of Situation Analysis (2019 Class)

The centre still experienced water shortage challenges for irrigating the vegetables, along with weed and pest infestations.

5.2.5. Strategic Ways of Addressing Some of the Challenges

The students introduced an improvised drip irrigation technique to the learners and trained them on the basics of operation. The use of insecticides and the operation of a knapsack sprayer were taught to the learners. Learners were taught all aspects of the production of vegetables and taken through various processes, including land preparation, seedbed making, seed planting, application of fertilisers and pesticides, irrigation and weeding (Figures 3 and 4).

Figure 3. Students transplanting lettuce.

Figure 4. Planted vegetable garden.
5.3. Project 3—Vuk’uhambe Agricultural Community Engagement

Project site: Ezitiyeni Farm.
Duration of collaboration: Six weeks.

5.3.1. Background

Ezitiyeni farm was established in 2004. It became a cooperative society in 2016 and was renamed Iphi Multi-Purpose Agricultural Cooperative. The members are two males and three females who cultivate maize, butternut and cabbage. The major water supply source is the Tyhume River which flow about 300 m from the farm site. The farm uses a sprinkler system for the irrigation of crops.

5.3.2. Results of the Situation Analysis

The farm is situated on roughly 10 hectares and is improperly fenced. Its multiple challenges include poor farm planning, limited financial support, insufficient farm labour, poor farm infrastructure, lack of adequate seedlings, weed and bush regrowth, pest infestations, unplanned production, improper farm management and poor sales of farm produce.

5.3.3. Strategic Ways of Addressing Some of the Challenges

Addressing this farm’s many inadequacies was a challenge. The students could assist mainly by providing additional labour, particularly for the harvesting of maize and butternut, and the planting of new seedlings (Figures 5 and 6). They also facilitated the donation of cabbage seedlings to help alleviate the challenges of poor finances to purchase seedlings for planting.

Figure 5. Field inspection by the students.

Figure 6. Planted field by the students.

5.4. Project 4—Bambanani Community Project

Project site: War Memorial Community Clinic.
Duration of collaboration: Six weeks.
5.4.1. Background

War Memorial Community Clinic has a dedicated space for a small garden for the production of vegetables. The cultivation of the garden was discontinued in 2017 because of numerous production challenges. Students in this project group made the decision to rejuvenate the garden; their collaborative effort successfully led to the re-cultivation of vegetables on the land.

5.4.2. Report of the Situation Analysis

Land is the main available production resource. There are no garden tools that could enhance production. The soil is fertile but due to non-cultivation has become overrun by bush.

5.4.3. Strategic Way of Addressing Some of the Challenges

The students first embarked on raising funds through campaigns in the community. Funds raised were used for the purchase of garden tools; a garden fork, spade, shovel, rake, Indian hoe, hosepipe, measuring tape and wheelbarrow. Along with hospital workers in charge of the garden, the students then embarked on re-cultivation of the garden, planting carrots, spinach, onions, cabbage, potatoes and beetroots (Figure 7). The workers were given training on preparing soil for planting, nursery making, seed/seedling planting, irrigation, weeding and the application of fertilisers and pesticides (Figure 8). Community members living around the clinic were invited to benefit from the training offered to the workers on gardening preparation and maintenance. In order to maintain and sustain the garden, the clinic was made to partner with the agricultural extension officer in charge of the clinic, who undertook to engage in regular visits and training.

![Figure 7. Vegetables planted by the students.](image)

![Figure 8. Inspection of vegetable garden for pests.](image)

5.5. Project 5—Lovedale Community Project

Project site: Lovedale Primary School.
Duration of collaboration: Six weeks.

5.5.1. Background

Lovedale Primary School was established in Tselamansi, Alice community, in 1930. The school has a dedicated garden for the supply of vegetables to the school. The garden has not been put to maximum use owing to poor production techniques, and as a result, it has not been able to fulfil the pedagogical objective of teaching the learners or providing vegetables for the school. The purpose of selecting the primary school was to revitalise the objectives of teaching and learning using live objects, and to inculcate an appreciation for farming in the learners.

5.5.2. Report of the Situation Analysis

The school has planted only spinach and onions, having plans to grow more crops but lacking the technical skills. The garden is overgrown with weeds, there is pest infestation on the crops, especially the spinach, and the soil condition is very poor, with some parts of the plots extremely hard and difficult to till. Learners lack the basic knowledge and skills for vegetable production.

5.5.3. Strategic Ways of Addressing Some of the Challenges

The Agricultural Extension Students (AES) of UFH, along with the principal of the school and workers seconded from the Community Work Programme (CWP) to support the vegetable garden, held two strategic meetings on the modalities of revitalising the farm and keeping it sustainable. Learners’ practical activities were factored into the strategic plan. Land preparation was carried out involving all stakeholders (Figure 9). Among the crops planted were spinach and onions. The learners and the CWP workers were capacitated on transplanting methods, fertiliser application, pesticide spraying (Figure 10), mulching and weeding. An indigenous method of controlling mole infestations of the crops using garlic and snuff (a dried form of tobacco) was taught by the AES to the learners and the CWP workers.

Figure 9. Vegetable beds constructed by the students.
6. Discussion

The Agricultural Extension Students–Community Experiential Learning Programme has shown that students’ knowledge and competency can be developed through such hands-on learning programmes. The opportunities provided for students to interact with their surrounding farming communities laid the foundations for students to bolster their prior knowledge and gain new knowledge. Students acquired indigenous farming knowledge from the local farmers, which was applied alongside their contemporary knowledge to implement technical solutions to the identified challenges. In line with Chan’s [46] train of thought, students are able to effectively translate and understand their classroom and textbooks knowledge by engaging in real-life events, as the conventional form of classroom-based learning may not be sufficient for providing the type of deep understanding students require. This hinges on the need to prioritise practical tasks and advocates for a shift from a mostly rigid conventional curriculum to a more dynamic one which embraces active application of and experimentation with theoretical knowledge. Baker et al. [47] expressed the need for agricultural education to be moved out of the four walls of the classrooms into a more agriculture-orientated environment. This divergence brings a new perspective to traditional educational practice, which uses the “transmission” model to convey already existing fixed ideas to learners [27,48]. The project’s approach in using PAR to reinforce the theoretical understanding of agricultural extension honours students accentuates the importance of bridging the all-too familiar gap between abstract knowledge and practical experience. This fact implies a more radical move towards exploring new practical programmes or further evolving existing programmes to meet the mandates of NDP, for a more efficient drive-in training of extension officers that meets the real needs of farming communities. “Learning by actual experience” is characterised as experiential learning [46] (p. 405). It is considered crucial for agriculturally based educational programmes since evidence shows its comparative advantage over the conventional learning models [35].

According to Bassa et al. [6], programmes such as this are implemented in the hope that students will be motivated to become “reflective practitioners”. The implemented projects honed students’ observation skills as they were required to critically observe and report all project activities. The reflective phase came into play at the end of the projects when students were tasked with reflecting on the experiences and knowledge gained in the field, and to translate their thoughts into project seminar writings for departmental and poster presentations, which formed part of the evaluation criteria for external examination of the module. This was in agreement with Boons and Laasch [49] views on knowledge acquisition through experiential learning. Another approach used to sharpen the students’ reflective observation was the use of social media tools to share project activities with the public (Table 1). This approach was implemented in the belief that diverse appraisals
from external bodies could intensify the students’ thought processes and drive innovative new directions in their thinking. Social media sites like Facebook can also serve as critical, resourceful, intellectual and interactive platforms through which students may broaden their educational horizons. The Facebook group feature allows groups to share important information, create awareness on matters of interest, and reflect on diverse perspectives relating to the issues [50,51]. Facebook-facilitated interactions have widened the prospects for engaging with diverse minds [52], as such, they have the potential to aid peer-to-peer learning [53]. Several pieces of research [54–56] attest that online platforms such as Facebook offer students the opportunity to engage in an extensive learning environment apart from conventional learning and teaching methods, providing exposure for the development of critical skills, creative thinking and productive alliances among learners. Students’ seminar reports and presentations were used as significant markers to assess their levels of comprehension of the experiences and knowledge gained in the field. This is based on the ground that students gain an in-depth understanding of their experiences during experiential learning and are able to draw conclusive inferences after thoughtful reflection on the experience. Their overall performances after the evaluations showed that they exhibited significant understanding of their project activities. This outcome indicates that the learners can competently apply their acquired experiences in similar or related circumstances.

The results of the findings are consistent with Canboy, et al. [31] that provides insight into the success of a number of experiential learning programmes. The Engineering Projects in Community Service (EPICS), mobilised in 17 universities across the United States, was designed to allow undergraduates to engage with teams from non-government organisations working in communities. Students interacted with local communities to identify their needs and used their engineering knowledge to proffer possible solutions. In Taiwan, medical students were drafted into the post-disaster service programmes initiated by Taiwanese universities. Students were integrated into local communities to participate in, observe and reflect on healthcare practices in the communities. The programmes promoted experiential learning and, of critical importance, provided opportunities for the students to actively assist community members [48,57–59].

Universities are being advised to empower students with applied skills and competencies by upgrading curriculum contents to include other learning approaches such as “experiential learning, action learning, problem-based learning or service learning” [31] (p. 445). This implies that curricula contents should make room for both theoretical and experiential training. In explaining learning styles, Kolb and Kolb [60] underscore the importance of creating spaces in curricula to allow students to actively engage in experiential learning in ways that develop competencies in their chosen professions. Such curricula tend to stimulate students’ personal investment and interest in learning [28]. Baker and Robinson [61] point to literature which suggests that students exposed to experiential learning gain a more intricate working knowledge and achieve greater learning outcomes than students not exposed to such learning opportunities. According to the authors, there is a need to design curricula to accommodate experiential learning since a significant proportion of current curricula make use of instructional approaches only, which, as evident in their study, is insufficient as a stand-alone teaching and learning approach.

Porter [3] noted that in theory, everyone benefits from this form of alliance; for instance, while community partners enjoy the energy, time and technical assistance/expertise provided by the university students and staff, the students gain technical know-how and people- and project-management skills, and get to experience problem-solving in a real-life context. Field reports from the participants in these projects further buttress these all-important benefits. Students concurrently assisted the community and acquired practical skills in the field. For instance, students gained practical knowledge in:

1. enhancing poultry biosecurity measures;
2. construction of fences;
3. the pooling and use of available local resources to implement suggested technical solutions;
4. land preparation, seedbed making, planting, nutrient conservation, fertiliser and pesticide applications, irrigation and harvesting;
5. practical use of farm equipment;
6. training and providing advisory services to community participants;
7. interpersonal skills, critical thinking, and enhanced initiative for problem solving.

In providing opportunities for all of the above, the project met one of its core objectives—the development of knowledge, skills and competencies in the agricultural extension graduates. Evidence from studies has shown that communities may indeed benefit from their alliance with higher educational institutions [62]. This is not a farfetched claim, considering some of the impacts this programme had on the community participants of the projects. Students working at the Mhlobo Mbane Poultry Project, for instance, facilitated the collaborative sourcing of local fencing materials to construct a new fence around the Mhlobo poultry farm to curb intrusions from predators. Students at the Gwebindlala and Lovedale community projects primarily assisted the community schools to improve on and train learners on vegetable cultivation. Students in the Vuk’ubambe Agricultural Community Engagement project provided additional labour for the harvesting of crops and the planting of new seedlings, and facilitated the donation of seedlings to the co-operative, while students at the Bambanani Community Project rejuvenated and increased the sustainability of a long-defunct vegetable garden at the War Memorial Clinic. These are clear-cut instances of the impact of such alliances. According to Korzun et al. [16] (p. 101), “such partnerships can be powerful tools for providing long-term, sustainable solutions to various issues faced by the community”. By engaging students and communities to identify and tackle the problems in the communities, rural development academics could provide a valuable experience for all participants [15]. The value of community-academic partnerships is fundamental particularly for discerning ways to integrate knowledge, unite strengths and achieve mutual objectives [63].

Summary

The programme was the first of its kind for the students of agricultural extension at the university of Fort Hare. The project involves students working with farmers to carry out situation analysis, proffering suggestions to solve problems and implementing the recommendations using local materials. The process aimed to capacitate the farm owners and disseminate technologies to farming community members using the participatory approach, while boosting the students’ experiential learning.

The results demonstrate that the model for the curriculum of agricultural extension should be more participatory in nature since participation was shown to boost successful outcomes and sustainability. Feedback from students during the end-of-project presentations, evaluations, and reflection papers was presented to the department and will be incorporated into the agricultural extension curriculum in the first semester of the new year.

The programme was able to provide the agricultural extension students with hands-on experience and time to engage in meaningful application of scholarship. The programme generated notable and appreciated outcomes for the farm owners and the communities in general while affording students valuable work experience in a real-life environment. In addition, students were able to gain skills and competencies in facilitation, presentation (oral and posters), leadership and the management of projects, all of which will enhance their resumes.

The results of Fort Hare’s experiential learning programme for AEPS indicate that this kind of experiential learning constitutes a significant teaching technique. The approach offers students meaningful and thought-provoking learning experiences that could be extended to other areas of agriculture curricula and used as a teaching strategy in other countries.

Results from the study show that critical thinking in students can be developed through participatory action research (PAR), which supports experiential learning in university-community alliance-based projects. Such projects allow students to experience real-life situations on farms and to work with older people who possess indigenous
technical knowledge, so that the students are led to construct new knowledge. Thus, the project, embedded with planning, diagnostic surveys, facilitation, implementation, adaptation and reflection, was used to solve a plethora of problems encountered. It is contended that the university-community alliance for experiential learning constitutes an ideal tool for students of agricultural extension to acquire new knowledge, and is therefore a desirable component of the curriculum, facilitating the development of mutual relationships “between gown and town”.

7. Conclusions

The UFH DoAE&E introduced the Agricultural Extension Students–Community Experiential Learning Programme as a university–community engagement programme for extension postgraduate students. The experiential learning practice aided students’ exposure to on-field experiences for lifelong learning. The promotion of knowledge and competencies such as people relating skills, the ability to work well in a team, logical reasoning, problem identification, finding potential solutions to practical problems and the use of social media platforms to facilitate and enhance intellectual dialogue and engagement was critical to the success of the programme. Working on different projects, students fulfilled their institutional and individual civic responsibilities and, in the process, contributed to some form of social change in the university’s surrounding communities.

The implementation of this programme has proven to be jointly beneficial, further motivating for a sustained partnership between the institution and communities.

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