

Bringing together learning from two worlds: Lessons from a gender-inclusive community education approach with smallholder farmers in Papua New Guinea

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Smallholder farmers are the backbone of food production in Papua New Guinea (PNG). Due to an increasing need to pay for schooling and health costs, many farming families are seeking ways to move from semi-subsistence farming to activities that generate more income. The long tradition of agricultural training in PNG to support the development of farmers has focused on technology transfer and on the production of cash crops. This form of farmer education has primarily benefited men, who typically control cash crop production. It has often excluded women, whose significant engagement in it is precluded by their low literacy, low education, family responsibilities and daily work on subsistence crops. This article examines the lessons learned from a project that facilitated village-level community education workshops that sought to bring male and female heads of families together in a culturally appropriate way in order to encourage more gender-equitable planning and farming practices. Through the development

and capacity building of local training teams, the project developed a critical and place-based pedagogy underpinned by gender-inclusive and asset-based community development principles.

Keywords: farmer learning; non-formal education; gender equity; critical place-based pedagogy; peer education; developing countries

Introduction

The learning story of a Papua New Guinea (PNG) woman smallholder farmer:

Yes, I went to primary school – it was a 45-minute walk and we had to cross a river, so when it was dangerous due to rain my mother kept me at home. Some days she asked me to stay home to help in harvesting our crops and other times she needed me to go to market with her, so I always helped. Sometimes I stayed home when the younger children were sick, too, because I could help my mother. My parents said it was better for my brothers to go to school.

I liked school. We had lots of children in our class and I made good friends. The teachers were very strict and we had to listen to what they told us. We were never allowed to talk and only spoke when the teacher asked us a question. There were not many books in the school, so the teacher wrote most things on the board. We worked very hard at reading and numbers. I did learn to read but I can't read as well now as I don't have much practice.

I finished grade 3 and I hope that my children will be able to finish all of primary school or even go to high school. That will be very important as then they can go to trainings in town and learn about things like the new crops and how to grow them. I wish I could read and write so I could go to the trainings, but they are not for people like me!

This constructed story has been created from the narratives shared by women semi-subsistence farmers in a project conducted in three

diverse areas of PNG.¹ While each of the areas were agriculturally and geographically different (highlands, islands and lowlands), the women's learning experiences were surprisingly similar. Most had limited education and low literacy and had not attended any agricultural training. However, all the women wanted to learn about improved farming and income generation for their family. The women's own depth of tacit knowledge about indigenous farming practices was invisible to them. These were the adult learners that our project wanted to support.

Our participatory action research project was designed to examine, develop and facilitate learning activities that would build the business acumen, skills and knowledge of women semi-subsistence farmers who increasingly need to engage in the cash economy to improve their family livelihoods. While the primary focus was on women, the project worked with both men and women to ensure the support and engagement of men, who are culturally recognised as the family head. The research focused on understanding the gender, cultural and regional enablers and barriers faced by farming families.

The project's Family Farm Teams Program (see Pamphilon & Mikhailovich, 2016) trialled a number of learning activities with these farming families. This article will focus on the design and lessons learned from the first module, implemented in the Western Highlands and East New Britain². It will examine the process and lessons learned from 'bringing together learning from two worlds'.

The PNG context

PNG is the largest of the Pacific island nations, with approximately 7.5 million people (United Nations Development Program, 2015). Typically referred to as a 'fragile state', PNG faces formidable development challenges, ranking 157 out of 187 countries on the Human Development Index, and 140 of 155 for gender inequality (United Nations Development Program, 2014). Relationships, kinship and the family are key strengths of PNG social life, with the fundamental social unit being the extended family within clan-based networks (wantok).

PNG faces a considerable number of challenges due to population growth, rural populations spread across difficult terrain, land shortages and conflict over customary land. It has high levels of crime and

violence, low levels of school completion, high maternal and child morbidity and mortality, and a growing prevalence of HIV/AIDS (Anderson, 2010; Asian Development Bank [ADB], 2012; Lakhani & Willman, 2014; McCalman, Tsey, Kitau & McGinty, 2011). Rural poverty is an issue for PNG; over 90 percent of the nation's poor live in rural areas and over 80 percent of the poor are rural-based subsistence farmers (ADB, 2012). These hardworking farmers were the focus of our project.

PNG women farmers

Women farmers are the major producers of food in PNG (Bourke & Harwood, 2009). They contribute considerably to diverse, local, informal economic activities (Gibson-Graham & Roelvink, 2011). However, as in other developing countries, women's roles in family care and household management are overly privileged, so their roles as agricultural producers and economic agents are not always recognised (Manchón & Macleod, 2010). Although the informal exchange economy continues to coexist beside the cash economy, women generally hold low bargaining power concerning the distribution of household income. Women's access to income from production can be a major area of intra-household conflict (Koczberski, 2007).

Key constraints to women taking a more productive role in agriculture include poor access to productive resources such as land, water, machinery, seeds and fertiliser; lack of access to credit; poorly developed, unsafe transport systems; and low school completion and low literacy, as well as limited access to formal training programs and extension services (Australian Centre for International Agricultural Research, 2014; Bourke & Harwood, 2009).

Agricultural training and PNG women farmers

The education of PNG farmers through agricultural extension has typically focused on technology transfer and on training for the development of cash crops (Sitapai, 2011). This form of farmer education has primarily benefited the cash crop producers – men. It overlooks women's work in the informal subsistence sector. Further, it has often excluded women whose low literacy, low education, family responsibilities and daily work on subsistence crops preclude significant

engagement in this form of farmer education. Cahn and Liu (2008) have argued that, until recently, an ‘invisible barrier’ existed in the form of strongly delineated gender roles in agriculture and a lack of understanding of PNG women farmers’ learning context and training needs. It was within this context that the Family Farm Teams Program was designed.

The Family Farm Teams Program

The first aim of the program was to develop a series of experiential learning modules that would enable male and female farmers to consider their family roles and develop them in a way that would improve the effectiveness of their family farm. The program’s four learning modules were (1) Working as a family farm team for family goals, (2) Planning your family farm as a family team, (3) Communication and decision-making as a family farm team and (4) Feeding your family farm team.

The second aim was to build local teams of village community educators (VCEs) – peers who could contribute to the design, delivery and evaluation of the Family Farm Teams Program. VCEs (at least 60 percent women) were selected by the PNG partner agencies. After each experiential learning module, the VCEs applied the learning in their own family, then shared the learning with their extended family and clan, and with groups through their local affiliations such as churches.

The program was conducted by an all-women team: two Australian academics, an Australian community development worker, two PNG academics, two PNG regional team leaders and six village leaders. This cross-cultural team enabled activities to be completed in English, Tok Pisin (the two major national languages) and Tok Ples (the local language).

The Family Farm Teams Program module 1 overview

Module 1, Working as a family farm team for family goals, was a two-day workshop in which the VCEs used a range of experiential learning activities that focused on daily life and gender relations in the family and on the farm. It was designed to enable female and male family heads

of households to learn how to map their current division of labour and then consider more equitable ways to work as a family. It introduced the concept of a family team as an effective and inclusive way to work as a farming family. The family heads then collaboratively determined their own farming goals, financial goals and general family goals.

The village community educator training overview

The VCEs undertook learning about learning: the basic concepts of adult learning and the skills of facilitating learning sessions were integrated across the two days of module 1. The experiential learning cycle – concrete experience, reflective observation, abstract conceptualisation and active experimentation (Kolb & Fry, 1975; Kolb, 2015) – was introduced at the start as a way to understand how adults can learn from experience in a series of action learning cycles. Following this, other key learning principles and techniques were explained and then modelled alongside the relevant module activity. For example, knowledge, skills and attitude learning objectives were explained in an introductory way, then linked to each session – knowledge was linked to structural barriers to family goals; skills to mapping family workloads; and attitudes to working together as a family team. At the pragmatic level, work sheet handouts introduced the participants to the key components of training courses: planning, design, implementation, evaluation and reporting (Tovey & Lawlor, 2011). Each work sheet included simple summary points written in English, and room for personal notes.

The Family Farm Teams Program principles

From our standpoint as white Australian critical feminist women, we came with an awareness that we bring our own lenses of culture and knowledge to the research context. We were cognisant of the feminist postcolonial critiques of participatory action research (Schurr & Segebart, 2012). Such critiques not only problematise simplistic dichotomies of us/them but also draw attention to the power hierarchies and asymmetries that can persist even in participatory approaches (Kindon, Pain & Kesby, 2007). We wanted to work together in a two-way learning process, knowing that we are all engaged in thinking differently and knowing differently (Smith, 2006). We held that by working collaboratively with PNG women and men, and by bringing together learning from two worlds to understand the complexity of

the lives of farming families, together we could identify ways to build stronger families and more resilient, adaptable communities. Hence the foundations of the Family Farm Teams Program incorporated critical place-based pedagogy, capacity building and a gender-inclusive approach.

Critical place-based pedagogy

The critical dimension of our pedagogy arose from the work of Freire and the popular education paradigm. Freire's (1970) theory of conscientizacao (conscientisation) invites learners and teachers together to interrogate the social worlds in which they live and, in doing so, move towards greater autonomy and agency. As Jara (2010) argued, popular education rejects the neoliberal instrumental rationality of conventional education which sees the learner as a 'human resource'. Popular education:

seeks to educate people as agents of change with the capacity to influence economic, political, social and cultural relationships as subjects of transformation. This is the perspective of ethical and emancipating rationality. (Jara, 2010: 290)

Critical pedagogy has an important place in developing countries where formal education is limited – indeed, where it is often limiting – and where many adults privilege a 'banking' (Freire, 1970) form of education. Many farmers have not had an opportunity to develop skills beyond the traditional ones they learned through the family. As Sen (1999) reminded us, a person is 'poor' not only when their income is below the poverty line but also when they have the 'unfreedoms' of capability and participation. Such 'participatory poverty' exists when a person's identity is negatively ascribed and their community or family contributions are invisible or taken for granted (such as women's family care roles). As a result, poor women, for example, are not heard or valued, or may even be silenced. Similarly, 'capability poverty' arises when people are deprived of the full learning and knowledge they need to be autonomous, independent and productive (Preece, 2010). Critical pedagogy seeks to address these dynamics by providing environments in which adults can name and value their own knowledge, share their knowledge, and have the confidence and skills to initiate the changes they value.

While Freirean critical pedagogy acts to make visible the sociocultural dimensions that impact on learners' construction of knowledge, it can be greatly enriched by a more nuanced place-based orientation. The project's place-based pedagogy acknowledged that people's lives are shaped by the places they inhabit, and their learning is linked to their lived experience. Somerville (2010: 326) has posited that our relationship to place is constituted in stories and other representations; place learning is local and embodied; and deep place-based learning occurs in a contact zone of contestation. Roberts and Green (2014) have further argued for spatial thinking (space and place) that acknowledges local demography, economy and geography as well as the more macro social dimensions. Place is not simply a singular geographic entity but also created and constructed by individuals and collectives through relationships with the natural world, through time, space and cultural reading (Coughlin & Kirch, 2010).

In PNG, a deeper engagement with place and space is especially relevant. Although the people share a Melanesian culture, the country is one of the most linguistically diverse, with 836 indigenous languages spoken (Central Intelligence Agency, 2014) and separate clans each inhabiting long-standing customary land. Hence our place-informed pedagogy overtly responded to the social, cultural and ecological places that people inhabit in their daily lives. Like Gruenewald (2003), we argue that critical pedagogy and place-based education, when they are used together, provide a powerful and ethical approach to learning and development.

Capacity building

Following asset-based community development (ABCD) principles (Green & Haines, 2012), the project used a strengths-based philosophy that understood individuals and local communities as knowledgeable, resilient and resourceful, rather than as 'needy'. An earlier project had demonstrated the efficacy of collaboratively developing the training skills of community members and local leaders (Pamphilon, Mikhailovich & Chambers, 2014). Hence our goal was to engage local community members in the design and delivery of the education activities.

As in many developing countries, the dominant model of farmer

education in PNG has been the ‘top down’ knowledge transfer model of ‘training of trainers’ (ToT) or ‘train and visit’ – also described by some PNG farmers as ‘train and vanish’. However, in PNG there is growing recognition that participatory modes of extension – such as farmers’ field schools, participatory action research and participatory technology development – have greater potential to engage farmers as collaborative problem-solvers who are more adequately prepared to adapt the learning to their ongoing complex situations (see for example Sar, 2012).

We wanted to ensure that local community members would develop adult education skills that could contribute to our program in the short term and be of ongoing value to their community in the long term. Building a team of VCEs was a critical facet of the program.

Gender inclusion

Given our awareness of gender inequality within PNG farming families, we knew that if we introduced families to new agricultural techniques and marketing strategies it was most likely that women would take up responsibility for these activities – we would inadvertently add to their daily burden of work. Our project recognised the importance of gender-awareness programs that acknowledge the different needs of men and women, and sought to promote gender-equitable relationships and asset sharing (Quisumbing, Rubin, Manfre, Waithanji, van den Bold, Olney, & Meinzen-Dick, 2014)

Acknowledging the strongly patriarchal nature of the PNG context, we believed that it was crucial to engage both men and women in dialogue, in order to bring issues to the surface in a manner that would enable both genders to determine ways to move forward. In a culture in which gender inequalities in power and constructions of masculinity have normalised aggression (Lakhani & Willman, 2014), we aimed to create an environment in which men would consider more positive expressions of their masculinity within the family. Munro (2017:46) notes that masculinities in PNG are seen to be in transition, with new emerging articulations of male identity being forged, particularly through monetary prowess, commodity consumption, sexual practices and Christian values. Koczberski and Curry (2016) illustrate the impact of growing individualism and the weakening of cultural ties between fathers and sons as further aspects of this transition. We believed that

a gender-inclusive foundation had the greatest potential to empower women and men to consider their relative roles in the family and in their farming practices. This foundation would support them to make collaborative decisions that could lead to greater equity in the family.

Discussion

There were many lessons to be learned as we strove to bring together learning from two worlds. The joy of working with enthusiastic adult learners cannot be understated. Equally, the challenges of creating an effective gender-inclusive intercultural learning space cannot be overlooked. As we built trust with our PNG colleagues, together we were able to adapt our practices as we reflected together on critical place-based pedagogy, capacity building and gender inclusion in action.

Critical place-based pedagogy in action

In order to bring together learning from two worlds, we sought to surface, value and integrate the knowledge of the PNG village participants and the knowledge of the Australian facilitators. This involved a process we call 'building learning from the inside out'. Central to this was the design of learning processes that resisted the 'othering' of our participants and of ourselves.

Building learning from the inside out

This process of 'building learning from the inside out' was an adaptation of a process trialled in an earlier small project in PNG (Pamphilon, Mikhailovich & Chambers, 2014). Through a collaborative process, workshop content was built up from material initially brought from outside by the facilitators, such as learning activities. That material was then built up further from the inside by the workshop participants. Such insider knowledge drew on the VCEs' understanding of local knowledge and practices, and their own experiences as farmers. This process was designed to empower local learning facilitators as experts on their own local community, as well as support them to use any insights from adult learning principles to design activities that would maximise the learning style preferences of local people.

There were a number of examples where the local knowledge of the

VCEs led to crucial adaptations. For example, rather than provide a list of possible family and farm goals (from the outside), a group activity was used to initially determine the range of family and farm goals (from the inside). This activity did surface the goals that had been documented in the literature (outside), such as improved housing, money for school fees and health costs etc., but it also surfaced (inside) goals relating to social capital, such as having money to contribute to church activities and being able to help wantok in times of need. When discussing the barriers to their farm goals, the VCEs also surfaced relevant local issues and challenges. For example, in East New Britain there was considerable discussion of the impact of the cocoa pod borer (*Conopomorpha cramerella*), which since 2006 had devastated the production levels of cocoa, which had been the mainstay of family livelihoods. Importantly, VCE teams noted significant gender impacts. Men had lost access to ready money from selling cocoa (known as the ‘backyard bank’), and many felt they had lost their identity as the family provider. In contrast, women were working much longer hours than they had been to produce vegetables, but there were limited markets for these crops. This illustrated how ‘identifying farm goals’ was not simply an instrumental activity but one enmeshed in local place and practices. As most of the VCEs were facing this challenge in their own families, it was clear that their local and cultural knowledge would be an asset in leading group discussions in their communities.

This type of collaborative endeavour falls within a larger movement of participatory research partnerships between the academy, organisations and communities that seek to foster co-constructed, situated knowledges and to contribute through praxis to transformation (Horner, 2016)

Beyond us and them

The ABCD approach encouraged us to use a range of ways to enable the VCEs to name and acknowledge the strengths they have as farming families. Both men and women showed great pride in the range of crops they grew and their ongoing ability to adapt to challenges such as poor access to markets. However, as we moved into the sensitive areas of family gender dynamics – as the male and female heads of households considered the gender challenges in families – we were aware that we needed processes that would empower the learning group and provide

a safe environment for women. This empowerment would lie in the use of processes that contribute to the ownership of knowledge, enhance participants' sense of agency and personal power, and enable learners to achieve new levels of success, productivity and effectiveness (Thornton, Mattocks & Thornton 2001). We used a range of participatory practices to achieve these ends, including drama (Baldwin, 2010; Flynn & Tinius, 2015; Kilgour, Reynaud, Northcote & Shields, 2015) and drawing (Mitchell, 2008), as they have been recognised as powerful and effective processes in working with adult learners.

We shared examples from our own country and analysed these in front of the group, then invited them to work in gender-specific groups to explore whether there were similar dynamics in PNG families. For example, one Australian facilitator presented a pie diagram of her family and pointed to the lack of involvement of her husband and teenage sons, showing how the responsibility for housework fell mainly on her shoulders. She then presented the second pie diagram of the more gender-equitable role divisions that her own family team had agreed to. VCEs were then invited to develop family pie diagrams and stories that reflected PNG farming families and their distribution of work. In informal feedback, both men and women expressed appreciation for knowing that families in Australia faced similar challenges to their own.

Gender equity and gender inclusion in action

As feminists, we believed that robust family teams would be founded on gender equity. However, we held that the transition to more equitable families in PNG may be a very different path to the ones we had experienced and observed in Australia. We were also very aware that, although in PNG the productive contributions of women to the formal and informal economy have been increasingly acknowledged (Cameron & Gibson-Graham, 2010; Curry, Koczberski, Lummani, Ryan & Bue, 2012), women continued to provide significantly more hours of labour for the family and the farm, and the high rates of family violence were not decreasing (Human Rights Watch 2015). Therefore, we sought to support transitions to new gender roles for both men and women, by sharing family gender challenges from both worlds and by providing a safe and inclusive learning environment for both genders.

Surfacing gender issues from both worlds

To model the fact that gender dynamics are challenging in all families, and in order to initiate a relevant place-informed role-play, the two Australian facilitators created a scenario that might arise in an Australian family (an aggressive father and a submissive mother), and then created a second role-play with a more egalitarian dynamic. The VCEs then worked in small groups to create role-plays that would represent PNG family dynamics that they identified as being problematic for them.

In both regions, this activity was enthusiastically embraced, and a range of very direct role-plays were created. The most confronting role-play for the Australian team involved a dispute about money in which the ‘father’ hit the ‘mother’, who reacted by swinging back with her own hit. In response to this explicit example of family violence – and to the surprise of the Australian facilitators – the audience roared with laughter, then offered spontaneous advice to the ‘mother’ and ‘father’ in the role-play, such as, ‘Tell him his dinner will be ready soon’, ‘Just walk out’ and, ‘Calm down, both of you’. The Australian facilitators observed the VCEs’ willingness and competency to directly address gender-based violence through these role-plays. The spontaneous audience coaching of the ‘father’ and the ‘mother’ provided a valuable educational innovation to the standard role-play, as it allowed participants to model ways in which families might respond to family violence. Both the PNG participants and the Australian facilitators found themselves in a shared space as they considered the ways that families in both countries needed to actively address unequal gender dynamics. Importantly, both men and women VCEs committed to begin to address this inequity in culturally appropriate ways.

Such a process is built on the assumption that gender equity and an equitable distribution of labour between men and women is desirable. Some might argue that such Western ideals are an imposition upon cultures with a different set of understandings and arrangements of men and women’s roles. However, decades of research has demonstrated that the pursuit of gender equity has led to benefits in women and men’s social, economic and political lives across both developed and developing countries. This is evidenced by the United Nations’

Millennium Development Goal 3, to promote gender equality and empower women, and the Sustainable Development Goal 5, gender equality, both of which recognise that gender equity is a condition for inclusive, democratic and violence-free sustainable development.

Capacity building in action

The development of VCEs as peer educators able to deliver informal training to their families and more formal training to local groups was challenging. We believed that the VCEs knew best how to provide informal training to their family members and neighbours, but we also aspired to develop the skills of some to a level that would enable them to be employed by other projects wanting to deliver training at the farmer-to-farmer level. Therefore, we chose to introduce the VCEs, many of whom had low literacy, to core adult learning concepts and the language used in training courses.

Developing the skills of peer educators

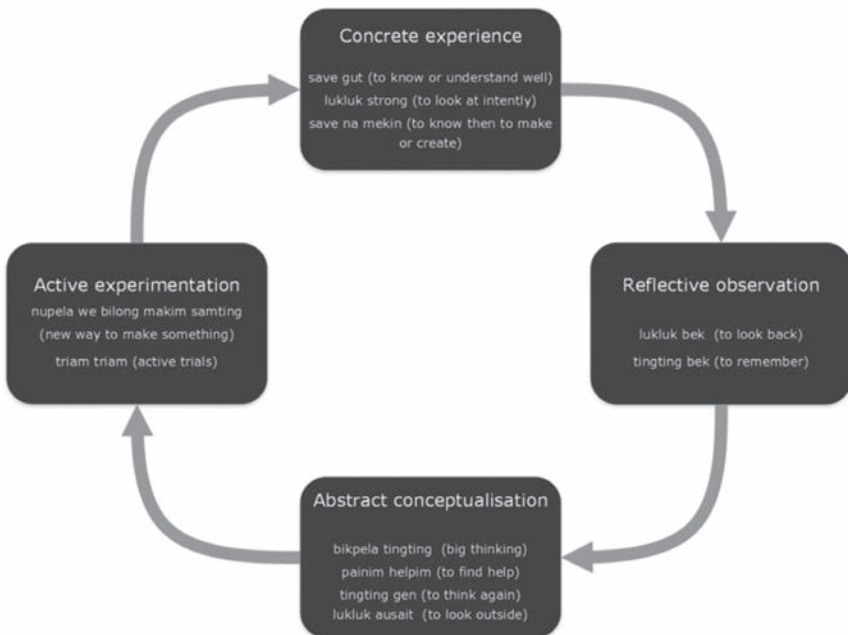
The Kolb learning cycle was initially selected because it had been used effectively with low-literacy farmers in Africa (Percy, 1999). We were cognisant of the critiques of Kolb's learning cycle that questions its Western individualist focus and the potential for understanding the learner in a de-contextualised way (Fenwick, 2001). However, we aligned with Seaman's (2008: 15) conclusion that experiential learning cycles are best understood as an ideology rather than a theory. Hence we emphasised the 'learner-centred' and 'problem-solving cycle' approach, in contrast to the conventional training model of 'information transfer'. This invited the VCEs to see people as active creators of knowledge who can be shown how to reflect on and build from their prior experience, rather than as Freire's (1970) 'empty vessels' to be filled.

The local VCEs related strongly to the 'concrete experience' and 'reflective observation' components of the experiential learning cycle, explaining that these were typically used in their agricultural work. For example, some women farmers outlined how they were changing their practices to address the impact of climate change. After observation and reflection, they were adapting their usual practices by harvesting at different times to ensure better crop outcomes. This process of trial and error became the basis for further experimentation (for example,

by trying later planting times). Through a discussion about the ‘abstract conceptualisation’ phase of the learning cycle, both men and women identified that seeking modern knowledge from agricultural officers and traditional indigenous knowledge from clan elders would enable them to see the bigger picture of what may be happening to their crops. That knowledge could then provide a wider range of, and new insights into, ways to experiment and adapt.

To assess whether there was any deeper resonance of the learning cycle, VCEs worked in groups to consider which Tok Pisin words would be most relevant for each of the cycle’s phases. The aim of this activity was twofold: it would provide a shared and consistent language for explaining the cycle to community members, and, importantly, it would enable our team to understand how the concepts were understood and/or modified by the VCEs. In both regions the translations mirrored or slightly extended the original English concepts. Most importantly, there was strong ownership of the experiential learning cycle across the VCEs’ groups.

Figure 1: Tok Pisin interpretations of the experiential learning cycle



At the end of the activity, VCEs were proud that they had defined their own PNG experiential learning cycle. As Diouf and colleagues (2000) proposed from their research with Senegalese farmers:

Perhaps the ways in which adults learn best (i.e., hands-on practice followed by reflection with feedback) does not vary across cultures. Instead, differing cultural norms and values may influence what adults learn ... when they learn ... who provides the instruction ... but not how they learn. (Diouf, Sheckley & Kehrhahn, 2000: 42)

Building on the strengths of multilingual learners with low literacy

In order to maintain the focus on 'learning about learning' through experiencing the learning activities rather than reading a manual, the work sheets were handed out one at a time in the relevant session. It was suggested that the VCEs use the work sheets to jot down notes. However, the worksheets were initially not well received; many of the VCEs appeared to be uncertain about what to note or record. Because they were written in English (and translated by the co-leaders into local language as each was used), the facilitators initially thought that the English language was the challenge. This was not the case. During the evaluation discussion, the VCEs explained that their learning style preference was to listen, and that the worksheets should be designed as memory prompts. VCEs who did take notes reported that they used English to record the technical areas, Tok Pisin for the general areas that would be relevant to many other communities, and Tok Ples for the issues specific to their own community best expressed in its own language. This reveals the complexity of working with multilingual learners.

Activities using symbols rather than words were essential for the many VCEs with low literacy. Again, here the local ownership of the program was apparent when VCEs ran a training session for invited farmers, the day after their own training. Their session had a number of adaptations of the symbol-based activities they had experienced the day before. For example, the traditional pie diagram circle to map family roles mentioned above was also re-presented by the VCEs as 'plots' in a rectangle-shaped farm. One-third of the family heads chose this more familiar shape of a local farm.

As the project developed, the teams explored other forms of visual resources to support cross-cultural communication and learning. Such resources included posters, bilingual picture books, and digital videos and stories. In the evaluation, the VCEs affirmed that visual activities were especially key for women farmers because of PNG's low levels of school completion.

Conclusion

The Family Farm Teams Program demonstrated the effectiveness of a critical place-informed pedagogy with men and women farmers in PNG. Both genders found the family teams approach to farming activities relevant and constructive. The learning activities for male and female heads appear to have been a non-threatening way to engage with gender dynamics in families. As one Western Highlands woman concluded:

In the past our family never talked together. My husband never discussed plans or worked with me, I did things on my own. After the training, my family sits together and discusses our goals, my husband and the children work with me and we always plan together. My husband and I work together as best friends and I am so happy.

The resonance of the gender-inclusive family teams philosophy with the PNG farmer families in this project suggests this may be a way to facilitate more equitable and productive family environments for women. We would argue that supporting families to address issues of gender at the level of the family is an important pre-requisite to the delivery of technical training to communities. Our East New Britain regional leader concluded:

This is breakthrough training – until we break through the attitudes, we are not ready for other training such as financial literacy.

The project has shown that learning activities can be more effectively place-informed when they are developed in partnership with local peer educators. Not only do these educators enrich learning activities with insights arising from their own lived experience as farmers, but their ongoing presence provides encouragement for others. As an East New Britain woman farmer said:

We will not give up, when things go wrong. Life may seem hard but we will continue to work. This ACIAR [Australian Centre for International Agricultural Research] project is helping us to see how we can improve our practices and lives. Not everyone will change their practices but at least some can do it and they will be the example for others to follow.

The work opened a space for dialogue within families in the context of family goal-setting activities. When others in their community witnessed the changes in family dynamics and farm activities, these families became role models through social learning.

The concept of a learning cycle proved to be a valuable way to focus on the active reflective learning processes used by adult learners. The abstract conceptualisation phase of Kolb's cycle foregrounded the important Freirean critical dimension of the pedagogy. As such, our work aligns with the more holistic applications of experiential learning cycles, such as that of Desmond and Jowitt (2012), who name their approach 'dialogical experiential learning'. This component of dialogue is a key facet for the development of farmers as adult learners.

By bringing together learning from two worlds, we found ourselves at a productive intersection of understanding between cultures and between ways of learning. As feminists, although we were committed to ongoing reflexivity and responsiveness, we are nonetheless left with many questions. For example, we saw that our all-female team provided opportunities for women that would typically have been taken by men. However, we also saw how an all-women team could be readily dismissed by some males within communities and organisations. At another level, we are increasingly aware of the range of impacts of other actors in this gender space – for example, the Christian Church (Anderson, 2015; Eves, 2016) . Hence, as we continue our work, we are (re)defining our own feminist practices within the complex gender landscape of PNG.

Our work has supported the development of a gender-sensitive and gender-inclusive co-constructed curriculum designed with farmers for farmers. The development of community education teams has placed learning facilitators in the heart of the community. Critical place-based pedagogy has enabled local families to engage in their own situated analysis and become actively engaged adult learners. As

Bagwasi (2006: 340) has highlighted, adult education is an important 'vector of development' as it focuses on the most productive, active and experienced members of a population. Such learning flows on to the family through the influence of the adults on their children's lives. Investing in place-informed learning for farming families will pay many future dividends for families, communities and their nation.

Endnotes

- 1 This project was conducted by the Australian Institute for Sustainable Communities, Faculty of Education, Science, Technology and Mathematics at the University of Canberra, Australia. See <<http://pngwomen.estem-uc.edu.au/>>. It was funded by the Australian Centre for International Agricultural Research (ACIAR). See <<http://aciar.gov.au/project/asem/2010/052> and <http://aciar.gov.au/project/asem/2014/095>>.
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