Benefits of Engaging Graduate Students in Participatory Rural Appraisals

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Abstract:

Participatory Rural Appraisal (PRA) is a needs assessment process that focuses on local farmer knowledge and identification of the needs of limited resources farmers. PRA seeks to empower farmers through engagement in the process. When farmers and community members understand and can agree on critical rural needs, they take the first step towards improvement of rural communities.

The benefits of active learning help to develop students who are better prepared to meet the challenges of the workplace. The challenge to higher education is to develop effective learning opportunities that truly engage graduate students in learning.

Through active learning techniques, students can increase their level of involvement and become greater contributors to the education process. As universities increasingly seek alternative methods for educating their graduate students, active field-based research PRAs could provide new pedagogical methods. Students completed a modified PRA with limited resource farmers in Mato Grosso do Sul, Brazil.

Results indicated that students gained team working skills, enhanced communication and international awareness. Students actively observed the lives of limited resource farmers through interviews, observations and learned the value of using a needs assessment tool through an active learning approach.
Introduction

Participatory Rural Appraisal (PRA) is a needs assessment process that focuses on local farmer knowledge and identification of needs of limited resources farmers. This process was developed in the 1980s with the goal of improving the quality of life for the poorest farmers in developing countries. When rural communities understand the how’s and why’s of their farming systems, they gain the power to make decisions that are both economical and beneficial. When used appropriately, PRAs help rural communities focus their needs and target potential solutions. A key aspect of the PRA process is that it engages interdisciplinary teams into participatory individuals’ intent on making an impact at the local level (International Institute for Sustainable Development, 2003).

The basis of the PRAs evolved from the engagement of a team of outside professionals joined by a group of concerned citizens at the local level. Active participation was needed because years of top-down intervention failed to make an impact. Increasingly students need exposure to participating in active field-based strategies so they are prepared to enter the international workforce.

Active learning is one of the strategies of becoming engaged in learning. To become an active learner; students need to read, write and become personally involved in problem solving (The National Teaching and Learning Forum, 2003). The benefits of active learning help to develop students that are better prepared to meet the challenges of the workplace. The challenge to higher education is to develop effective learning opportunities that truly engage graduate students in learning skills that are transferable to the workplace.

Theoretical Base

Conway and McCracken (1988) stated that Participatory Rural Appraisal (PRA) is a “systematic yet semi-structured activity carried out in the field by a multidisciplinary team and designed to quickly acquire new information on and new hypotheses for rural development.” (p.18) PRAs emphasize a bottom-up approach that relies on local “grassroots” knowledge in decision-making. To achieve the bottom-up approach the researcher(s) need to find the poorest farmers, those that need the most assistance and discover through personal interaction what their needs are. This is accomplished through a non-formal active learning approach. The researcher(s) must first become the students, learning from the farmer(s) before they can use their “expertise” in helping the farmer(s). Active learning transpires through data collection techniques that focus on the strengths and weaknesses of the given farm. The criteria used in data collection are: site and farm mapping, transect maps, timeline (generational), seasonal calendar and personal interviews. Upon data collection completion, a nominal group process is conducted with all the individuals involved. The goal is to share the data collected and then vote on the top one or two items to work on over the next year. The nominal group process is followed by what Chambers (1997) calls handing over the stick or giving full control to the farmer or community involved. Turning over control to the farmer or community aids in empowering them to become the change agents.

Active learning is the process of getting students engaged in learning in either formal or non-formal settings. Chickering and Gamson (1987) suggested that active learning could be accomplished by having students read, write and engage in problem solving. However,
Bonwell and Eison (2003) argued that those activities are not enough to truly facilitate active learning by students. They discussed using more advanced tasks like evaluation, analysis and synthesis of material. Active learning emphasizes a more complete learning experience through engaged participation. Fink (1999) developed a model for active learning, which contains four parts: doing, observing, self and others as seen in Figure 1.

Figure 1 Active Learning Model

<table>
<thead>
<tr>
<th>Experience of:</th>
<th>Dialogue with:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doing</td>
<td>Self</td>
</tr>
<tr>
<td>Observing</td>
<td>Others</td>
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Source: Active Learning, Fink (1999)

Fink (1999) suggested that the dialogue with self concerned personal reflection about a given topic, with the goal of increased understanding. Dialogue with others includes lecture, small group discussions and other verbal interaction which helps engage the student(s) in the learning process. Observing others can also be beneficial to the learning process. Fink (1999) discussed two ways of observing, either direct or vicarious. Direct observation refers to the learner witnessing a real action, while vicarious observation is conducted with a simulated action. In either occasion the learner takes part in the learning process by becoming actively involved. Experience with doing represents the action of getting involved in all aspects the learning process. Doing puts all of the pieces of the active learning process together. As this pertains to PRA, students or researchers must first engage in dialogue with others, followed by experiences in observing then doing, and dialogue with self should be a continuous process through reflecting while learning.

**Purpose and Objectives**

The purpose of this paper is to describe the outcomes of an international agriculture PRA graduate course where engaged learning was a focus. The objectives were to: 1) Identify graduate student learning that occurred while conducting a PRA, 2) Identify the benefits of participating in a field-based needs assessment process.

**Methods**

Graduate students from three different disciplines within the college of agricultural sciences were notified of the opportunity to conduct a modified PRA in Brazil. Five students were selected to participate in the course. The students spent one month prior to travel, collecting background data on limited resource farming in the state of Mato Grosso do Sul, Brazil, and studying how to conduct PRAs.
The modified PRA was conducted with graduate students from the Federal University of Mato Grosso, located in Dourados, Brazil. Three students from the university chose to participate in the PRA. PRA reference materials were sent to Brazil prior to the U.S. student’s arrival. The U.S. students taught a two-day PRA training session for the Brazilian students and interested faculty. Students from both universities collaborated to revise and translate the data collection tools for local needs and conditions.

During the next week and a half the students visited twenty farms, selected by the local extension agents from The Instituto de Desenvolvimento Agrario, Pesquisa, Assistencia Tecnica e Extensao Rural de MS (IDATERRA- Brazilian Rural Extension Initiative). One Brazilian student was paired with two U.S. students and they assisted in conducting the PRA, while also translating for each group.

Data Collection

To determine the impact that the PRA process had upon U.S. and Brazilian graduate students, qualitative instruments were developed. The instruments consisted of two questionnaires: the initial tool contained 13 written open-ended questions developed to collect data at the beginning of the PRA process (part 1); the second tool was an 11 question open-ended survey used after completion of the PRA (part 2) by the graduate students who participated. The students were given reflection time of one week post-PRA before the final survey was administered. Two Brazilian students completed the study in their native language. The responses were later translated by a native Brazilian upon return to the U.S. Two professors and a graduate student reviewed the instrument and provided face validity. All eight students participated in the initial data process and seven participated in part 2 at the conclusion of the PRA.

Results Part 1 (data collected at the beginning of the PRA)

1. **How has participating in the PRA enhanced your knowledge of limited resource Brazilian agriculture?**

   *They have a fairly good road infrastructure for commercialization, sense of pride for what is produced locally. While limited resource farmers are similar around the world, they face specific problems in their own regions. They have more land that I would typically expect. Increased understanding of life situations and problems of small farmers. Education really makes a difference in the development process. I am impressed by the limited amount of planning by the farmer, allowing the events in life to dictate their activities.*

   Students learned about the struggles and hardships associated with limited resource farming. Through the PRA process the students were continually learning from the farmers, extension staff and from each other. Students learned to expect the unexpected. No two farmers were the same, although there was one common theme in and that all of the farmers were subsistence farmers. Students were all asked to take an active role in the collection of data. Data collection included preliminary background information, teaching the PRA process to their Brazilian counterparts, and collection of on-farm data. Through these roles,
the students benefited from interpreting, observing, and interacting. Spending time with the farmers and seeing how they work and live, the students became engaged in the complexities and hardships that plagued the farm families on a daily basis.

2. **In what ways could you use the PRA process in other situations?**

In academic research, which requires survey type data collection. The PRA process provides a framework for needs assessments, regardless of the situation. Aided in honing interviewing skills as well as critically evaluating situations. Encourage methodologies on rural development. In social situations, for example, work place, schools, community studies or any type of social structure. The PRA process is an educational tool that can be used in many forms. It is a team building activity that helps everyone involved understand. To evaluate the impact of policies or infrastructure projects.

The multidisciplinary backgrounds of the students helped them to understand and see the PRA for more than just a tool for working with limited resource farmers. All of the students were masters or PhD students so they gained exposure to field-based qualitative research methods. Students recognized the value and transferability of the PRA process to help them interact with individuals in social settings.

3. **What are some of the most challenging aspects of conducting the PRA in Brazil?**

The variability in the land fertility from one area to another, which makes transects difficult because it leads to “islands of fertility”. Lack of a constant record of farm operations. Too much extension worker influence was a major challenge. Poor roads, which prolong travel time. Absence of trained people to do this. Government many times does not take into consideration the technical and professional aspects when hiring people. Poor communication within the university administration and the community. Outdated resources like soil maps. The lack of information about soil, rain and geography. The lack of planning by the farmers was a little frustrating. Language barrier was the most challenging aspect. Much of the time was spent translating, and I am sure that not all of the information was transmitted.

Students learned that conducting research or working in an international setting requires flexibility. Flexibility is perhaps the most important aspect that the students learned during the experience. Students learned the reality of conducting international work. Many textbooks infer that everything will be available, organized and conveniently ready. The reality is that when you are in the field this rarely happens. As students reflected on the challenges found in the field, the experience became more real. These lessons learned became part of the individuals’ growth and development.
4. Please describe the long-term educational benefit you expect to gain from the PRA activity.

It could come in handy when conducting work related research that requires survey type data collection methods. I plan to take the methods I learned from the PRA with me throughout my professional career. This was the first time I was actively involved in a grass roots needs assessment. I have no doubt that I will apply these methods both domestically and internationally. Become more open-minded about the world. Allow me to become more involved with rural development in a more efficient way. Look at agricultural problems in a different perspective. As a woman, I plan to continue to educate myself and use these opportunities to help others. Hope to be more conscious with international problems and agriculture. To have a critical view about the reality we face in our daily lives. I will take an enhanced knowledge of the process and how to apply it in different settings. Discover a new reality of Brazil.

Students noted that participation would directly benefit them in their future career work either internationally or domestically. They saw the usefulness PRA has as a needs assessment tool applicable in any setting formal or non-formal. The long-term benefit comes when these students become the future teachers that work to educate on the importance of teamwork, communication, active learning approaches and international awareness. Students gained a new perspective of international problems as their awareness was enhanced. This transferability of knowledge and skills suggest a level of self-confidence that is valuable as an evaluation indicator.

**Results Part 2 (data collected at the conclusion of the PRA)**

1. How did you benefit from conducting the PRA?

I learned how culture, education and the government influence farmers. To look at agriculture situations in a different and broader perspective. Enhanced my team working skills. I learned a lot more about this process and the way to prepare the survey. I have also learned how to work as a team internationally. I learned a valuable needs assessment tool. I was able to hone my interviewing skills. I communicated with people from a different culture. Working in groups with people from different countries was an enriching experience. It provided me with a great exchange of information and knowledge. It was amazing to realize how people from different backgrounds are at the same time so similar. Increased knowledge of Brazilian agriculture. Enhanced interpersonal skills in a foreign language environment. The major benefit was learning the limited resource reality, observing their difficulties and realizing their weaknesses in a wider and critical point of view.

Students benefited from the PRA in many different ways depending upon their specific field of interest. However, team working skills, enhanced communication and international awareness were mentioned several times in various ways. The benefits of conducting the PRA go well beyond simply aiding limited resource farmers. The PRA
taught these students life skills and a needs assessment tool that can be used in many applications. The PRA also stressed an active learning approach whereby those involved participated actively in all phases of study. The real benefits however, may not be immediately obvious. When those involved can take what they have learned and apply it to other situations, either in formal or non-formal settings, then it is likely that they will be able to identify additional benefits.

2. Please describe the usefulness of the PRA process to identify local farmer needs?

It was very useful because it allows the researchers to observe common problems. For example, the transects allow us to identify specific areas lacking of irrigation, or specific areas where opportunity cost is higher, given the quality of soil. I realized how important it was for people to stay in the country and making their living by the land and how proud they are because of that. I also learned that there are two different management lines of rural settlements. The one that happened during the 1950s and the one currently happening. Before going to Brazil I had limited knowledge of Brazilian agriculture—you rarely fully understand something until you personally experience it. After having participated in the PRA, I feel as though I have a comprehensive knowledge of limited resource farmers in Brazil. The process got me engaged in the understanding of the farmers needs. The farmers we visited were truly living off of the land and with some minor changes or strategies could become more profitable. I learned that Brazilian limited resource agriculture is in better standing than other places I have worked in like South Africa. I learned new information on how land was initially distributed and some current limitations. Nevertheless, larger farms will likely continue to dominate the agricultural sector and small farmers need to grow to become more efficient. I’d like to say that the PRA contribution was great. I have always worked with limited resource farmers; however, I did not realize their difficulties, activities, lack of funding, and lack of qualified extension agents.

Students actively observed the lives of limited resource farmers through interviews and observations. They spent time in country with the goal of better understanding the farmers’ needs through the use of PRA. The results indicated that students who had participated in a PRA before Brazil saw this experience as an opportunity to see the agricultural and social differences that exist from culture to culture. The students from Brazil gained an increased knowledge about limited resource farmers in their own area. The students with no prior experience appreciated the value of interviewing and working directly with limited resource farmers. The students felt like they were able to engage the farmers in meaningful dialogue to see what they otherwise were missing. Overall, this was an eye-opening experience for students as it had an impact on their ability to begin to understand limited resource farmer needs.
3. **In what ways has this international PRA experience helped you?**

The international exchange was excellent. Having the opportunity to talk to people from other countries, understanding their production system and their ability to solve problems. Brazil is an underdeveloped country. The PRA is an excellent tool to provide knowledge about our weakness, barriers, strong points and opportunities. Has helped to reduce my inhibition to travel abroad and to be more conscious about international situations. This experience will make me more marketable for international work and study. The experience broadens our views on how the world works and changes the way we do things in our home country. It helped me to learn more about myself by taking me outside my comfort zone. It has given me the confidence to teach this process to others. The PRA has given me a taste of conducting a needs assessment and a reiteration of the importance of the participation of locals in changing. I have also gained a working knowledge of the Brazilian culture. The international experience helped me to realize that I can work in other agricultural areas and there are many kinds of agricultural research trends that I never thought existed. People may have different hometowns and cultures but they are still similar. What made this experience different was the opportunity to work with and learn from professionals from different careers then mine, which allowed me to make the connection between those areas and economics.

Students all came from diverse backgrounds, some with prior international experience. For most of the students, the PRA served as an educational tool to learn about another culture. Two students had participated in a PRA before, so they were able to compare and learn from their last PRA experience. Everyone involved realized the challenges that are part of conducting international work. A primary benefit that was voiced by many of the students was learning about a new culture. Some students saw this experience as a way of increasing their career opportunities. Nevertheless, everyone learned a valuable needs assessment tool through an active learning approach. Students grew personally as a result of participating in the PRA. They indicated that they gained skills that would make them more competitive in the job market. Students also obtained a working knowledge of how to work in international development.

**Conclusion**

Participatory rural appraisal is a needs assessment designed to bring awareness, education and empowerment to limited resource farmers. Participation in the process is conducted through an active learning approach, using four criteria: interpreting, observing, interacting and evaluation. Interpreting or listening represents a continual process throughout the PRA for optimal active learning. Listening does not stop after making initial contact. Observing encompasses the various aspects of the PRA such as drawing farm maps and transects. However, it also focuses on something vitally important to international work: reading body language and other non-verbal communiqués. The spoken word is only one aspect of communication and, in conducting international work, can often be a major barrier. This makes awareness of what is not said important and it requires that students actively observe. Interaction involves direct communication with farmers and local officials. Here
individuals begin to gather valuable insight to culture and local values as they collect information such as the seasonal calendar or trend lines. This step can only be accomplished through interviews and by asking questions. Evaluation represents the culmination of data collection and voting by the farmers on the most important aspects to focus on in the coming year. Figure 2 represents the combination of Fink’s (1999) model on active learning, Chambers (2002) ideals regarding the PRA process and the Kellogg Foundations (1998) idea of engagement. Limited resource farmers or our clients are at the top of the figure, because they are the most important group in the PRA process. The figure is designed as a bottom-up approach whereby the researchers are the lowest point. The aim is to work towards aiding limited resource farmers through a dynamic two-way communication process.

Figure 2. Engagement of students in active learning using PRAs


**Educational Implications**

Increasingly universities are challenged to develop engagement activities that transform student-learning experiences in and out of the classroom. Engagement can be described as the two-way street of communication that serves to educate both the researchers and those being studied (Kellogg Foundation, 1998). Moreover, educational experiences need to enrich learning in ways that help students transfer activities to new situations. All
students who take an active learning approach in education in either a formal or non-formal setting benefit themselves and those they work with. Participatory Rural Appraisal acts as a catalyst to get students involved as active learners. The process can be described as an engaged learning activity because it heavily utilizes a two-way street of communication between farmer and researcher.

Chambers (2002) discusses the bottom-up approach when conducting PRAs, which emphasizes empowerment of limited resource farmers. The starting point of any PRA in either formal or non-formal settings should lie with the poorest individuals or communities, as they are the ones that require the greatest assistance. However, while this idea seems fairly straightforward, too often the approach has been to try to change things from the top. This has led to wasted money by non-governmental organizations (NGOs) and other agencies along with wasted time producing little or no results for the farmers. The argument can be made that these agencies did not become fully involved or engaged in the process. Instead of becoming active learners looking to aid the farmers, they instead were passively participating.

Through the Brazilian experience, students provided evidence that active learning and full engagement can lead to increased understanding and awareness. The experience has the potential to create the next group of change agents. Students also indicated that their level of confidence in conducting an international experience grew. The graduate learning experience in Brazil can serve as a model for diverse and unique domestic and international programs in the future.
References


