

## Participatory Learning Experiences: What These Mean to Me as an Agroecology Instructor

### Introduction

Participatory learning and action (PLA) are well-known activities in the development community. A robust literature has been developed over the past several decades. The International Institute for Environmental Development in the U.K. [<http://www.iied.org/participatory-learning-action>] has published over 65 documents in 25 years on PLA.

Farmer learning as a component of transfer of technology has been described by Warner (2008) as critical to adoption of new ideas about how to prevent pollution from agriculture. He maintains that technologies related to large issues in agriculture need to be spread through social networks. This concept is similar to our social learning in agroecology classes and team projects. Learning in agroecology courses that is initiated with phenomena in the field and close interactions with farmers to uncover the bases for decisions have been found to increase effectiveness of education on practical challenges in farming. This is best accomplished by teams of students, instructors and stakeholders (Francis et al., 2012a). Jordan et al. (2005) incorporated the idea of transformation, defined as a “systemic change that addresses a certain ecological problem in an agricultural system, into an action learning component of agroecology courses.” Francis et al. (2012b) described the importance of students exploring the agroecological learning landscape as part of their immersion in the real situation of farmers, and a path toward active learning. These concepts are being incorporated more every year into courses on organic farming and agroecology.

In a recent teachers’ workshop in Plovdiv, Bulgaria, we began an interactive session with the assumption that a lecture of participatory learning would be an unacceptable contradiction in terms and process, thus the session itself should reflect the principle of participation. To explore the topic, we asked people to reflect on their personal experiences and write down specific impactful learning activities, discuss these with one or two colleagues and then share with the group. After a larger discussion among everyone, we attempted to draw out commonalities. The conclusions were summarized.

### Methods

Sixteen participants in the European Network of Organic Agriculture/Agroecology Teachers [ENOAT] workshop were given five minutes to write a response to this challenge: “Think of one personal learning experience, as a student or as a teacher, when you thought participation was the most important part of learning?” After writing down one or more experiences, participants were given ten minutes to discuss their personal learning highlights with one or two others and why they were important. We followed this in a plenary session with the instruction to “Share one or two of these experiences with the larger group in plenary and think about key issues we have to consider?” Key issues were recorded and individual written papers were collected to summarize and to identify commonalities.

### Results

Part 1: Personal learning experiences as student or teacher: A wide range of unique personal learning experiences were shared by participants, including memories both as students and more recently as teachers. Some noteworthy examples follow:

Experience 1: Over a decade ago we were focused on the potentials of biotechnology and genetic engineering in a discussion group of 18 students and instructor. Each person voted “yes,” “no” or “no opinion” on a series of new technologies that were available only by GMO techniques. One technology was use of human growth hormone to stimulate growth early in life to achieve normal height. Seventeen out of 18 voted against using this medical technique due to potential abuses. In the discussion that followed, the normal-appearing young man, who voted in favor, told his personal story. “*I was born with a hormonal deficiency and without this treatment with implants and later injections of the hormone, I would now be only 1 m tall instead of 1.60 m – this is why I voted for the use of HGH technology.*” As a class we voted again, and of course everyone voted in favor of HGH use in appropriate ways. As an instructor, I was amazed at the power of this situation for learning, and was delighted with the safe

learning space and level of trust we established in that discussion group which empowered this student to share his story.

[NOTE: This type of learning situation cannot be created, but could be called an emergent property of the classroom environment where trust among discussion participants was high enough that people felt safe in sharing their personal experiences. The example speaks to the importance of establishing a trusting and caring learning community, that can be called the social capital associated with this particular group.]

Experience 2: When I started as an academic teacher, I organized the final oral assessment of students for the course. One student told me it was possible to have the cysts of *Trichinella*, a dangerous parasite from wild pigs, in the human heart muscle. I was angry with him, because in a textbook written by a respected specialist this possibility was not mentioned, so of course I wanted to give him a negative grade. But he told me, "I am personally ill because of this parasite, as is my father." Therefore, I understood that we can learn from our students, and knowledge is not a closed area, so we can never know everything.

[NOTE: We learn every day, if we are open to new ideas and evidence about the world around us. To ever assume that we are the experts and should have the last word on a topic is to miss out on a wealth of experience and learning that is possible if we value the life experiences of others, especially our students. To affirm their prior knowledge and experience, and to provide students with confidence to express themselves, even to disagree with instructors and with others, is a valuable gift we can provide as a useful tool in education.]

Experience 3: As a student, many years ago, I remember the soil science practical work when a group of students, supervised by the professor, dug a soil profile to study. We worked hard, but we had the opportunity to explore layer after layer while digging through the profiles. The most important part was the group work involved in this educational, field experience.

[NOTE: This field group activity combined the practical and academic dimension of learning different soil strata while opening the profile, with the social learning that goes along with the group effort to accomplish the task.]

Experience 4: As a teacher, I find the most exciting learning experiences are when my students visit real organic farms and learn directly from farmers about their problems and successes.

As a student, I liked field trips because when I saw what we were learning, and not reading it from a book, the experiences stayed in my mind so I could see them later. They were not just concepts from a book.

[NOTE: Seemingly, nothing can substitute for the direct student discussions on site, on farms, with people who are making the decisions and living with the consequences. This type of reality is difficult to achieve in the classroom, and somehow we need to find the mobility funds to use more field excursions as an integral part of our classroom teaching.]

Experience 5: Good results are achieved when students work in groups. Preparing reports, seminars or other output helps them build communication skills, learn effective ways of exchanging knowledge, and practice responding to questions to clarify their ideas and information.

[NOTE: In reality that most people will be working in teams for the rest of their agricultural careers. – in business, in academia, in government, or in non-profit sectors. Improving group learning skills in the relatively safe space of the classroom environment benefits students.]

Experience 6: As a student, in one course, I read about 200 pages of scientific text and prepared three questions. In order to ask a good question, you must be familiar with the topic. To understand something well enough to ask good questions is an excellent way to learn. In the same course, the next task was to read about 200 pages of text and make a 30-minute presentation. Effective presenting means clearly explaining the topic to others.

[NOTE: New instructors soon recognize that teaching a topic is one of the best ways to learn. Although one can never anticipate all the questions students will raise, having the confidence to present a topic requires a basic appreciation and understanding of the subject. Pressure to do a good job in front of one's peers is also beneficial.]

Experience 7: As a student, I did practical work in ecology involving a small research project on fruit trees in meadows with bees compared to those without bees. I still remember this work in detail, cooperating in a group of three, and completing the difficult statistical analyses. Working in the field made the project fun and I really liked the course.

[NOTE: Often, learning statistical methods are complicated by lack of context or relevance. When statistical methods are tied to a real world situation, this presents a motivation to understand the theory and methods and to use the tools to draw sound conclusions (Salomonsson et al., 2005.)

Experience 8: Personal experience, as a student, was to solve a problem on an organic farm. The context of the farm provided motivation and relevance.

[NOTE: Projects in the classroom are often context free. Students experience difficulty making connections with a farm and real-world challenges.]

Experience 9: As high school students in their first agriculture course, we went to a pig farm where the teacher would demonstrate castration. He put the small pig on a table, made the first cut and out came half of the pig's intestines. The teacher calmly explained that sometimes mistakes happen, pushed the intestines back in, sewed up the belly and completed the intended operation. This was a real learning experience for all of us and showed the importance of resilience and staying calm in a stressful situation.

[NOTE: The teacher's dealing with a difficult situation was one of the most important lessons for him and for the students. We need to adjust to change, react positively to adversity when possible, and make the most of each learning situation.]

Experience 10: A professor in agriculture and herbology at our university always came into the classroom with a smile on his face. He was never read from any textbooks during class. He really knew his teaching.

[NOTE: First impressions and lasting opinions of the students are highly valuable. Providing a friendly and welcoming environment in the classroom is very important. But also important, is knowing the material and how to present it in an active and participatory way.]

Part 2: General comments developed from presentations and discussion: Based on the written experiences from workshop participants, and plenary discussions, general observations about participatory learning included these ideas or requirements:

Small class size is preferable: Organizing meaningful participation and discussion that includes everyone is difficult in large classes.

Project groups of three: After considerable discussion about the optimum size of groups for participatory work in classes, the general opinion was that two people did not provide a critical mass or enough combined energy for completing complex tasks, while with more than three there was high probability of at least one person 'floating along' without making a contribution. The nature of project work could be a factor in deciding how many to place in a team.

Creative funding options: Often transportation to field sites, cost of lodging and meals, and other logistical challenges require creative solutions and funding.

Practical exercises, good timing: Planning of participatory learning activities often requires more time in planning than lectures or simple laboratory exercises. Explicit learning goals, clear objectives and thoughtful communication are especially important ensure that all are informed.

Participatory lectures: Even with relatively large groups, it is possible to encourage discussion and questions during the class; for example: "clicker technologies" allow students to quickly respond to surveys or to multiple choice questions. Results are immediately available for all to see and for the instructor to adjust the presentation. More sophisticated cell phone apps are also available. But without this technology, many options are open to encourage voting in class, breaking into small groups to discuss and form consensus, sharing one-on-one or two-by-two, and other creative ways to stimulate sharing and capture ideas from students' experiences.

Hand out data sheet and maps: Time can be saved on field excursions by preparing a map of the community, landscape, or farm, or a simple data sheet with important facts about the farm to be visited. This saves time on site and assures data will be correct, so valuable time can be spent in discussion rather than on available facts. On the other hand, discovery is also valuable and students should be able to discuss and decide what is important to learn. Some balance is necessary.

Clear demonstrations: As with any class activity, clear learning goals, adequate preparation are needed so instructors and stakeholders are fully aware of the type of learning desired. A structured evaluation of the exercise or demonstration should be used to review what was learned and what could be improved.

Excursions and preparing questions: Students should have enough background information before an excursion so they can prepare with readings and develop key questions. Student groups may

decide to specialize their questions, to be sure different individuals ask about production, economics, environmental impact and social aspects, and specifically listen for answers to their questions.

Establish motivation for individuals and groups: To improve the value of the learning experience, an imbedded evaluation or other type of post-experience validation of learning is useful. This can be in the form of reports, presentations, short quiz, or other type of feedback. This serves to legitimize the experience in learning and provides information on how to improve the exercise in the future.

Confidence to say "I don't know:" One method of establishing trust through transparency is to clearly admit that you, as an instructor, do not always have the answers, both in the field or in the classroom. Useful questions to expand the discussion include, "What do you think are the possibilities?" "How does this depend on the context or the situation?" "How important is this question relative to others?" "Where do you think we can find the answer?" or "Who would be willing to research this and report back to class in the next session?" Given that many classrooms are connected today, the last suggestion could be, "Who can quickly look this up on the internet and give us some relevant ideas?"

## **Conclusions**

The ENOAT participants concluded this was a useful topic to explore, and that using a participatory method to capture individual past experiences was a valuable process to uncover unique learning situations from our time as an instructor or as a student. Several specific experiences were given under methods, and then a number of general comments were taken from the group discussion. Participatory learning can build interest and enthusiasm in the classroom and in the field, and that every possible effort should be made to include hands-on and active learning for individuals and for groups in agroecology and organic farming learning environments.

## **Useful References**

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