Universities Council on Water Resources
Journal of Contemporary Water Research & Education
Issue 150, Pages 34-40, March 2013

Participatory Learning and Popular Education Strategies for Water Education

Bruce Missingham

Monash University, Melbourne, Australia

Abstract: This paper presents some experiences of bringing critical pedagogy and participatory learning approaches into postgraduate university classrooms in teaching about water and sustainable development. Employing critical pedagogy and participatory approaches offer ways of escaping conventional lecture and tutorial approaches to pedagogy in university, strategies for incorporating and sharing student knowledge and experience, engaging students in the production of theory and knowledge (and not just their consumption), and problem-posing approaches that encourage critical thinking and creativity. First I discuss the need to break away from conventional university teaching approaches and the usefulness of critical pedagogy and participatory perspectives that seek education for social change. Then I explore four elements of participatory learning that have been effective in my water education practice and seem to offer lessons for innovation in water education in higher education. These elements are i) asset-based teaching and learning, ii) participatory learning to enable deliberative processes and collective learning, iii) problem-posing pedagogy, and iv) involving students in construction of knowledge.

Keywords: *Water, education, participatory learning, critical pedagogy*

An appeal to participation and participatory pedagogies has become something of an orthodoxy within environmental education and education for sustainable development (Reid et al. 2008; Tilbury 2012; UNESCO 2012). There seem to be several reasons for this and it is worth highlighting some of them here as a way to justify participatory learning approaches in water education.

First, formal education in institutions such as schools and universities has been subject to a sustained analysis and critique by critical pedagogy (and other fields) (Darder et al. 2003; Freire 1972; Shor 1987). Critical pedagogy is both a radical critique of conventional education and an approach aiming to democratize educational processes and empower students for progressive social change (Darder, Baltadano, and Torres 2009). It has been deeply influenced by Frierian critiques of formal education and his ideas of dialogue and problem posing education. According to Nina Wallerstein (1987: 33):

> Freire's central premise is that education is not neutral: whether it occurs in a classroom or in a community setting, the interaction of teacher and student does not take place in a vacuum. People bring with them their cultural expectations, their experiences of social discrimination and life pressures… Education starts from the experiences of people, and either reinforces or challenges the existing social forces that keep them passive.

As Giroux (2009: 452) writes, critical pedagogy sees universities and "schools as social and political sites involved in the struggle for democracy." Therefore, critical pedagogy also concerns itself with radically transforming formal education and educational institutions, and argues that education for social change requires an explicit awareness of the power relations and inequalities built into schools and universities.

Paulo Freire's ideas and writings on education for social change have also influenced popular education. Popular education here refers to education that seeks to support organizing or activism for social justice, democracy, and environmental goals (Crowther et al. 2005). It is a

form of radical adult education and hence usually takes place in non-formal education contexts and often draws on Frierian approaches to dialogic education (Kane 2001). Popular educators regard the community as the key source of knowledge and the starting point for learning (Arnold 1991). Popular education sees empowerment and "transformation" as necessarily a collective process and explicitly encourages learning processes that lead to collective action for social change.

Popular education methods and strategies are widely practiced in non-formal education and non governmental organization programs throughout both the developing and developed world. There has been constant interaction and cross-fertilization between participatory development and popular education as both are concerned with social justice, community education, collective action, and social change. To a certain extent, they come together in approaches to adult education and training in international development contexts, such as the dialogic approaches of Hope and Timmel (1995), Vella (1989; 2002) and Participatory Learning and Action (see Pretty et al. 1995, and the Journal Participatory Learning and Action). Environmental education and education for sustainable development practitioners often draw upon such educational traditions, especially in adult education, nonformal and non governmental organization contexts.

Despite a long standing – but marginalized – interest in education for social change in many universities (Shor 1987), the higher education sector has proved particularly resistant to the ideas and innovations of critical pedagogy and popular education (Crowther et al. 2005). Recently, however, there has been some resurgence of interest in participatory and dialogic approaches to learning participatory development in university contexts (e.g., Taylor and Fransman 2003; 2004).

Critical pedagogy and popular education challenge us as educators to think critically and reflexively about not only the content of education but also the process and practice of teaching and learning. These traditions seek to avoid the authoritarian and teacher-centred processes of much formal education, and to empower students by enabling collaboration and negotiation between students and teacher to determine learning goals and processes. Participatory learning also provides "tools for developing and sharing knowledge, skills, and experiences that ideally lead to cognitive gains, action competence, and community building" (Reid et al. 2008: 2).

For the rest of the paper I will explore some of the ways I have attempted to put these ideas and learning strategies into practice in teaching about water and sustainability in university classrooms. How can we engage students and enable them to see themselves as agents of social change and not just consumers of pre-packaged knowledge?

Asset-Based Learning and Teaching

Critical pedagogy advocates avoiding "banking education" (Friere 1972), teaching that "deposits" into students the knowledge and skills authorized by the teacher. Conventional teacher-centred education employs a "deficit approach" to students in the classroom – positioning the teacher as the subject expert and the students as lacking the knowledge, skills, and attitudes that the subject curriculum will convey. Deficit approaches effectively silence students, frame them in terms of a one-dimensional "student" identity that overlooks the wealth of individual experience, knowledge, interests, and attitudes that students bring to education.

Asset-based learning seeks to employ the insights and approaches of asset-based community development (ABCD) to teaching and learning in the university classroom. A fundamental insight of ABCD was that much conventional community development (and indeed international development) took deficit approaches to the target populations and communities they sought to help. That is, they perceived and labelled target groups in terms of deficits or lacks – poverty, unemployment, lack of education and skills. This is a very disempowering discourse, enlisting "poor" or "disadvantaged" groups as clients into a welfare system that maintained them in a dependent position (McKnight and Kretzmann 2005). The deficit perspective effectively silences target communities and blinds development workers to seeing the strengths, knowledge, skills, and other kinds of human, cultural, social or material resources possessed by communities. In other words, the assumptions

informing deficit approaches help to create and maintain a relationship of power and disadvantage between development worker and client group.

To deficit assumptions and their consequences, ABCD holds that the development worker is not an "expert" bringing the benefit of her knowledge and authority to the community, but rather should see local community members as the "experts" on their own local conditions, resources, knowledge, culture, values, priorities for change etc. From this perspective the development worker establishes a relationship based on dialogue, partnership, and facilitation (Kretzmann and McKnight 1993).

Asset-based teaching and learning therefore seeks to apply strategiessimilar to those of ABCD but in the classroom, and in doing so avoid a deficit approach and its consequences. Instead, it makes student experience, knowledge, and attitudes into fundamental and valued resources for learning and relationship building. The teacher steps down from the role of expert and acts as a co-learner and facilitator, engaging the learners in dialogue starting from their knowledge and expertise. This is one of the most powerful reasons I have found for abandoning conventional "stand and deliver" lectures. Lectures (and most conventional tutorials) devalue and silence the knowledge, experience, and expertise that students bring and marginalize opportunities to draw upon student expertise.

A starting point for asset-based learning in the classroom is to conduct an inventory of student "assets," and use the inventory to forefront and highlight the knowledge, experience, and social capital students bring as learning resources. There are many ways to do this of course. When I first started trying to incorporate ABCD into teaching and learning I drew directly on a workbook, Discovering Community Power, developed for community development by the ABCD Institute (Kretzmann et al. 2005). I usually do this activity very early in the course as it provides an engaging way to introduce students to asset-based approaches to sustainable development, at the same time as getting to know each others' "assets." Students work in small groups to conduct an inventory of their individual experience, skills, and talents; their social networks, clubs, and organizations; and the institutions (such as universities, hospitals, media, etc.) to which they have a connection, as well as other local assets that they might be able to mobilize for a particular community development purpose. The outcomes of the activity are always surprising and enlightening about the depth and diversity of what students can contribute.

More recently, I have adapted a framework commonly used in education and teaching – "Head, Hands, and Heart" (Peter Oliver, personal communication). This is an activity that facilitates students recording and sharing their knowledge and qualifications (matters of the head), their experience (matters of the hands), and their deeply held interests, hobbies and "passions," and their hopes and dreams for their future (matters of the heart) – and gets them to think about how those different assets could contribute to class knowledge and learning goals on the topic at hand.

The value of such an asset-based approach is borne out every year in teaching masters by coursework students a class in water and sustainable development. Importantly, not only does such an activity highlight the importance of students learning from each other, but it helps to contextualize the lecturer as a person with useful knowledge and experience rather than THE topic expert in the classroom. For example, in 2012 in a class of 28 students, the students originated from 16 different countries, came with 10 different disciplinary backgrounds (from human geography, political science to environmental engineering, hydrology). The great majority (24 out of 28) had at least two years professional experience in their fields, and most of those had worked in water-related sectors. The great majority had either volunteer or paid professional experience in developing countries. In the very first class together it became very clear that their combined years of work experience related to water resources development far outweighed the experience of the lecturer in the room (me!) and most realized that there was possibly more to learn from each other than from the academic "expert."

Dialogue and Problem-Posing Learning

Dialogue involves mutual respect between educators and learners. It requires educators to step down from the conventional position of power and

authority that educational institutions place them in and positioning them as co-learners working with learners and participants. Everyone in a group has some knowledge they can contribute and gaps in other areas and everyone seeks to learn collectively. A dialogic approach aims to position students as active subjects acquiring and constructing their own critical knowledge, rather than as passive recipients of knowledge determined by powerful institutions.

Such a dialogue is most meaningful when it starts from the lived experience, needs, and aspirations of participants. Therefore, popular education respects community members' culture, ways of life and aspirations. Dialogue is a cooperative process of analyzing and learning about the world. It aims to help learners develop a deeper critical understanding of their place in society, especially the sources of inequality that constrain their own lives. Therefore, in dialogue the educator poses problems that stem from key social forces shaping participants' lives – the social, economic, and cultural contexts that impact on individual lives. Freire (1972) calls these key problems "generative themes." The aim is for participants to take charge of their own learning, to raise generative themes and pose problems to the group themselves. Popular education aims to enable learners to acquire critical knowledge and take action in order to make a difference in the world.

Problem-posing in popular education generally aims to challenge community members to analyze and engage with the social forces constraining their lives (Arnold et al. 1991; Freire 1972). In my own practice in the university classroom, I have tended to interpret the dialogic approach more in terms of Freire's proposal that the educator step down from the role of expert and approach learners as equals, posing problems and questions to engage them as participants in the process of investigating, analyzing and producing knowledge. This is more in line with approaches to participatory and dialogic learning advocated by Shor (1987), Vella (2002), Pretty and his colleagues (1995) and even influential health educators such as Werner and Bower (1982).

So, what does this mean in water education? Taking a dialogic, problem-posing approach can mean engaging students in sharing knowledge and analyzing problems throughout an entire course and not just in an independent capstone project at the end. For example, on the first day of a course on water and sustainable development, students draw rough maps of river basins they are familiar with, often choosing basins where they grew up and have direct personal experience. They present the maps to each other and explain economic, social, and environmental issues in their river basin, and begin the process of analyzing what "sustainability" means or could mean in their chosen context. In one exciting session, students from different disciplinary backgrounds used these maps to explain how their particular academic discipline (e.g., engineering, chemistry, fresh water ecology, management) would "read" and understand the river basin. This led to a stimulating discussion and debate about how such different disciplines could talk to each other and be integrated.

Participatory Learning – Collective and Deliberative Process

It is not only important to validate the great diversity and depth of individual and collective experience that students bring to the class, but to find ways to share knowledge and useful learnings with each other. I have found that facilitating participatory workshops is an effective way to draw upon student expertise as a resource but also to challenge students to analyze and apply their existing knowledge and expertise in new ways and thus extend it. One very effective approach is the popular education strategy of using analysis to look for patterns in students' or participants' own lived experience (Arnold et al. 1991).

Participatory learning encompasses a range of techniques and methods for facilitating and enabling students to come together in groups (usually small groups) to share knowledge and ideas, discuss, debate and deliberate, analyze and critique, and construct and create knowledge and theory (Pretty et al. 1995). Participatory learning aims to enable a kind of deliberative democracy in the classroom – a collective and interactive process.

Participatory learning is underpinned by group facilitation techniques widely known and used in adult and popular education, community

development and participatory training. For example, Participatory Learning and Action, widely used in rural and community development, provides an extensive toolkit of interactive mapping, modeling, ranking, diagramming, and matrix techniques for working with groups of people to enable them to collectively compile, systematize, and analyze local knowledge and information (in other words, conduct research), with a goal of using and applying that knowledge in collective planning and implementation of local development activities.

Participatory Learning and Action also provides educators with a "toolkit" of facilitation techniques that can be applied in and adapted to a wide range of contexts, as well as education and training situations. Some people use the term Participatory Learning and Action, arguing that the approach has much broader application than just "appraisal" in "rural" contexts (see the online journal Participatory Learning and Action). Such Participatory Learning approaches, however, are much more than sets of useful facilitation methods. Underpinning them is a set of attitudes, values, and ideology that respects student knowledge, experience, and aspirations, values dialogue and participatory democracy, and seeks social change and social justice (e.g., Chambers 1997; 2002; Pretty et al. 1995).

Construction of Knowledge

Popular education and critical pedagogy seek to turn students from passive consumers of knowledge determined and transmitted by the expert lecturer, into active constructors of knowledge in the learning process. This, of course, is part of the dialogic and problem-posing process.

Paulo Friere (1972) argued that uncritically consuming knowledge transmitted by powerful institutions like schools and universities is inherently disempowering. Students are effectively silenced. The role of the critical educator, according to Friere, is to challenge students and enable them "to become aware of the world around them as something they can change" (Newman 1999: 41). This means helping them find their own words and language for understanding and analyzing their world. It means starting from their own experience and acquired knowledge, developing critical thinking skills to evaluate and draw on different kinds of information and concepts, and developing and articulating knowledge, analysis and action that can be applied to changing their world.

As Taylor and Fransman (2003: 8) write about development education, "A basic concept of learning and teaching participation is that individuals participate in generating their own personal theories which are relevant to their own context." I have found that working with students to challenge them to analyze and develop their own theory is a very effective form of participatory learning, building upon and analyzing previous experience and knowledge and engaging them in the production of knowledge, not just its consumption.

In the water and sustainable development class, students construct knowledge in a broad range of ways, both individually and in small groups. In participatory learning sessions they develop principles for effective community participation based on their own experiences and reading of case studies and water development literature, they formulate methods for conflict management, and strategies for effective networking in the water sector. At the International Water Centre we have tried to integrate this philosophy of knowledge production into assessment processes as much as possible. In the water and sustainable development class, students in small groups research, design and deliver their own participatory learning workshops to engage their fellow students in learning about new methods for participation in water resources development. In Problem-Based Learning assignments they draw upon a range of disciplinary knowledge to analyze particular problems in particular contexts, and design their own development projects to achieve integrated water resources management and sustainable development.

Conclusion: Students Learning to be Critical Thinkers and Agents of Change

If universities are going to educate professionals to have the knowledge, skills, and attitudes needed to work towards integrated water resources management and sustainability in the water sector, then I believe they need to be critical thinkers with the confidence to challenge all kinds of institutional

knowledge and conventional ways of thinking. They need to see themselves as agents of change and not just professionals looking to slot into an existing "career" and industry. They need an appreciation of participatory development and all that it implies in terms of valuing and involving a range of previously marginalized groups in water decisions. Educating people with those sorts of critical thinking skills, sense of agency and participatory outlook requires us to think about pedagogy as process and not just content. I have argued here that critical pedagogy, popular education, and participatory learning offer pedagogical strategies and processes that can inform our water education in useful ways to achieve such ambitious educational goals. Indeed, these educational traditions have all been influential in current approaches to Education for Sustainable Development, especially as it is practiced in nonformal and community contexts.

Acknowledgements

This material is based upon work undertaken at the International WaterCentre supported by Griffith University, Monash University, the University of Queensland and the University of Western Australia.

Author Bio and Contact Information

Bruce Missingham is Lecturer in Environment and International Development, at Monash University. He can be contacted at bruce.missingham@monash.edu.

References

Arnold, R., B. Burke, C. James, D. Martin, and B. Thomas. 1991. *Educating for a Change*. Ontario: Between the Lines & Doris Marshall Institute.

Chambers, R. 1997. *Whose Reality Counts? Putting the First Last*. London: Intermediate technology Publications.

Chambers, R. 2002. *Participatory Workshops: A sourcebook of 21 sets of ideas and activities*. London: Earthscan.

Crowther, J., V. Galloway, and I. Martin (Eds.) 2005. *Popular Education: Engaging the Academy*. Leicester: NIACA.

Darder, A., M. Baltodano, and R.D. Torres (Eds.) 2003. *Critical Pedagogy Reader*. New York: RoutledgeFalmer.

Freire, P. 1972. *Pedagogy of the Oppressed*. London: Penguin.

Giroux, H.A. 2009. Teacher Education and Democratic Schooling. In Darder, A., M. Baltodano, and R.D. Torres (Eds.) *The Critical Pedagogy Reader*. New York / London, Routledge Falmer, 438-459.

Hope, A. and S. Timmel. 1995. *Training for Transformation: A Handbook for Community Workers*. Revised edition, Gweru, Zimbabwe: Mambo Press.

Kane, L. 2001. *Popular Education and Social Change in Latin America*. London, Latin America Bureau.

Kretzmann, J. and J. McKnight. 1993. *Building Communities from the Inside Out: A path towards finding and mobilizing a community's assets,* Asset-Based Community Development Institute, Evanston, IL.

Kretzmann, J.P., J.L. McKnight, S. Dobrowski, and D. Puntenney. 2005. *Discovering Community Power: A Guide to Mobilizing Local Assets and Your Organizations Capacity*, available from Asset-Based Community Development Institute.

McKnight, J. and J. Kretzmann. 2005. Mapping Community Capacity. In Minkler, M. (Ed.) *Community Organizing and Community Building for Health*. Rutgers University Press, New Brunswick.

Newman, M. 1999. *Maeler's Regards: Images of adult learning*. Sydney, Stewart Victor Publishing.

Pretty, J.N., I. Guijt, J. Thompson, and I. Scoones. 1995. *Trainer's Guide for Participatory Learning and Action*. London: International Institute for Environment and Development.

Reid, A., B.B. Jensen, J. Nikel, and V. Simovska. 2008. Participation and learning: developing perspectives on education and the environment, health and sustainability. In Reid, A., B.B. Jensen, and V. Simovska (Eds.) *Participation and Learning: Perspectives on Education and the Environment, Health and Sustainability.* Springer, 1-18.

Shor, I. (Ed.) 1987. *Freire for the Classroom*. Heinemann.

Taylor, P. and J. Fransman. 2003. Learning and teaching participation in institutions of higher learning: overview. *PLA Notes* 48.

Taylor, P. and J. Fransman. 2004. Learning and teaching participation: Exploring the role of higher learning Institutions as agents of development and social change. *IDS Working Paper* 219.

Tilbury, D. 2012. Higher education for sustainability: A global overview of commitment and progress. In *Higher Education in the World 4 Higher Education's Commitment to Sustainability: from Understanding to Action*. Basingstoke, Palgrave Macmillan / GUNI, 18-27.

UNESCO. 2012. *Education for Sustainable Development Sourcebook*, Paris, UNESCO.

Vella, J. 1989. *Learning to Teach: Training of Trainers for Community Development*. Washington: Save the Children & OEF.

Vella, J. 2002. *Learning to Listen, Learning to Teach: The Power of Dialogue in Educating Adults*. Revised Edition. San Francisco: Jossey-Bass.

Wallerstein, N. 1987. Problem-posing education: Freire's method of transformation. In Shor, I. (Ed.) *Freire for the Classroom*. Heinemann.

Werner, D. and B. Bower. 1982. *Helping Health Workers Learn: A book of methods, aids, and ideas for instructors at the village level.* Hesperian Foundation, Palo Alto.