

Real and Virtual Experiential Learning on the Mekong: Field Schools, e-Sims and Cultural Challenge

PHILIP HIRSCH* & KATE LLOYD†

*School of Geosciences, University of Sydney, Australia, †Department of Human Geography, Macquarie University, Australia

ABSTRACT *This paper describes two innovative and linked approaches to teaching and student learning in the environmental and development geography of the Mekong region, a region remote from students' normal experiential options. The first approach is field-based learning through Field Schools carried out in Vietnam, Laos and Thailand. The second approach is a structured role-playing web-based simulation exercise (e-Sim) on Mekong Basin environmental management challenges. This paper discusses the complementarities of these approaches and considers the degree to which these two experiential approaches to teaching and learning have contributed to key competences, namely cross-cultural communication and understanding, multi-disciplinary approaches to environment and development, and regional knowledge of Southeast Asia.*

KEY WORDS: Asia-Pacific geography, experiential learning, field school, development, environment, Mekong

Introduction

Experiential learning is about more than experience through immersion. Important concepts in experiential learning are the learning cycle approach and the concept of different—and complementary—learning styles. In this paper, we discuss an approach to experiential learning in the field of development and environmental geography of a region remote from students' lived experience and everyday pedagogic milieu. Specifically, we describe two innovative and linked approaches to teaching the environmental and development geography of the Mekong Region. The first approach is field-based learning through Field Schools carried out over five weeks as a collaboration between Sydney University students and students in Vietnam, Laos and Thailand. The second approach is a structured role-playing web-based simulation exercise (e-Sim) on Mekong Basin environmental management challenges, run over 4 weeks for students at three Australian universities from both social and physical science backgrounds (human and environmental geography; technology assessment and environmental engineering).

Correspondence Address: Philip Hirsch, School of Geosciences, The University of Sydney, Sydney NSW 2006, Australia. Email: p.hirsch@geosci.usyd.edu.au; klloyd@els.mq.edu.au

ISSN 0309-8265 Print/1466-1845 Online/05/030321-17 © 2005 Taylor & Francis
DOI: 10.1080/03098260500290892

Both the Field School and the e-Sim have multiple objectives, including substantive learning about development and environmental challenges as experienced and dealt with by different social actors in the six countries of the Mekong Region and by Australian and other external interests in that region. Another significant objective is to give students experiential skills in dealing with cultural difference, particularly in the field of environmental and natural resource management. Two dimensions of culture are part of this process: the cultures of different societies and countries, and the discipline cultures of the social and natural sciences.

The main part of the paper describes the two activities and their complementarity. We consider the degree to which these two experiential approaches to teaching environmental geography of the Mekong Region have contributed to key competences, namely cross-cultural communication and understanding, multi-disciplinary approaches to environment and development, and regional knowledge of Southeast Asia.¹

Experiential Learning Methods

Experiential learning has at its heart an activity that immerses students in a situation that is part of, or relevant to, the subject matter about which they are developing knowledge and understanding. However, the learning is not limited to this situated experience. The learning cycle, developed by Kolb (1984), commences with experience but applies it as the basis for a sequential process of learning through reflection, abstraction and experimentation. Each of these stages is associated with particular learning styles. Different learners have different proclivities to each learning style, affecting the effectiveness of learning and requiring flexibility on the part of the teacher for optimum learning. Kolb's (1984) work also identified disciplinary groupings on the basis of learning styles and noted that some learning styles were more adapted to some disciplinary knowledge structures than others. Bradbeer (1999) further develops this and recognizes that there can be several valid and equally effective learning styles to tackle a discipline. Geography, as a discipline concerning diversity and difference, is open to several different learning and teaching styles and as such various forms of experiential learning have been the basis of a number of innovative teaching and learning methods (Healey & Jenkins, 2000; Fortuijn, 2002).

Healey & Jenkins (2000) apply Kolb's experiential learning approach to the study of geography in higher education. In showing that experiential activities such as fieldwork are central to but not the sum total of Kolb's learning model, they imply the need to consider the relationship between experience and the other parts of the learning cycle in a systematic and sequential way. Moreover, the concept of a learning cycle involves iterative interplay between experience, reflection, conceptualization and application/experimentation. In geography, the implication is that fieldwork and other hands-on experiential activity needs to be complemented by reading and other reflective activity, while more theoretical coursework benefits from real-world empirical learning through hands-on activity.

The benefits of experiential learning are well established. As Healey & Jenkins suggest, moreover:

For geographers it has a ready connection to our concerns with students learning directly from the environment, particularly in fieldwork. Its particular appeal to us is

that it legitimates the wide variety of teaching methods that have now been developed by geographers, and also gives us theoretical and practical pointers to improvement. (2000, p. 193)

In other words, experiential learning builds on existing approaches to teaching, whether it be field-based, seminar-based, lecture-based or Information and Communication Technology (ICT) based (Figure 1).

Experiential learning can also be used to raise awareness of multicultural issues, to challenge students' personal frameworks regarding cultural diversity, and to help them develop cultural empathy (Ridley & Lingle, 1996; Pope-Davis *et al.*, 1997; Arthur & Achenbach, 2002). This is especially useful when the area being studied, in this case the Mekong, is a region remote from students' normal experiential options.

Experiential Approaches in Geography Teaching

Teaching mechanisms that incorporate active student involvement have a long tradition in undergraduate geography teaching (Gold *et al.*, 1991). Monk (2000) reflects on a number of approaches in geography teaching that link theory and practice and take students beyond the passive gaze of traditional fieldwork, by engaging them directly with the (local) 'Other' (Johnson & Oliver, 1991; Buckingham-Hatfield, 1995). She notes that in these situations "emotions, confidence, responsibility and trust-building are called for and upon, while academic knowledge and skills are developed" (Monk, 2000, p. 172). Here, we report on and evaluate two experiential teaching and learning methods that focused on learning about environment, development and rural livelihood change in Southeast Asia with the aim to engage and challenge students through cross-cultural, intercultural and multicultural interactions. The methods we discuss are field-based learning and web-based simulation/role-play.

Field trips have long been an integral part of geography degrees in universities in many parts of the world, and there is little doubt that this form of teaching and learning is popular with both students and staff. Usually used to supplement traditional forms of teaching such as lectures and tutorials, excursions are seen as providing different insights and learning experiences from those provided by a lecture or practical, as well as being a unique social experience, including the building of group identity, team spirit and good staff-student relationships (Clarke, 1996; Kent *et al.*, 1997; Nairn *et al.*, 2000; Stainfield *et al.*, 2000).

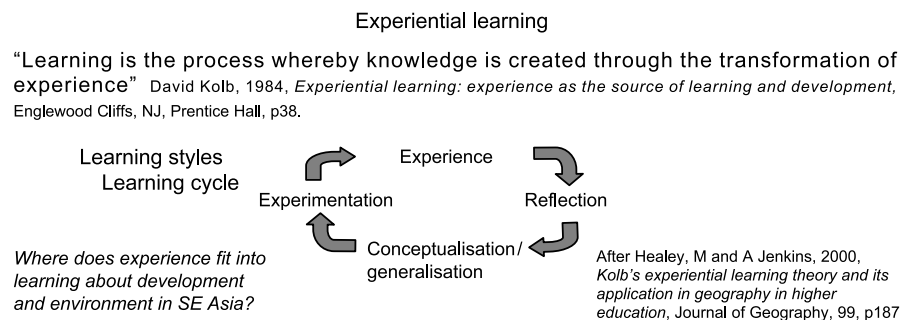


Figure 1. Experiential learning.

While field trips bring numerous advantages to the teaching of geography, there are also notable disadvantages associated with this type of experiential learning. These include the relatively high financial and time costs of running fieldwork, both to the department and to the student, the latter raising equity issues in terms of access to more experiential learning. Other barriers include difficulties faced by disabled students, gender issues, language barriers, logistical and preparation problems, culture shock and the difficulty of making accurate risk assessments in advance (Gold *et al.*, 1991; Nairn *et al.*, 2000; Stainfield *et al.*, 2000). Potential problems of elitism and paternalistic sympathy with 'privileged' university students going to view 'underprivileged' groups in poorer societies are also highlighted in the literature (Ternan *et al.*, 1999; Nairn *et al.*, 2000).

These difficulties, combined with a growing emphasis on ICT and diversification of teaching styles, have given rise to a variety of new forms of experiential learning. Within this body of practice, simulation and participative role-play techniques are commonly used to reconstruct and explore geographic issues (eg. Livingstone, 1999). Classroom-based experiential learning ranges from face-to-face role-plays (Cutler & Hay, 2000); and more recently Internet-based role-play simulation approaches (Vincent & Shepherd, 1998; Hay, 2000; Naidu *et al.*, 2000; Poustie, 2001; Brierley *et al.*, 2002) and Virtual Field Trips (VFTs) (Dykes *et al.*, 1999; Stainfield *et al.*, 2000) which have delivered rich learning environments in higher education (Asakawa & Gilbert, 2003).

Such techniques also offer a potential teaching and learning mechanism that can tackle some of the difficulties of addressing stakeholder issues:

Simulations seek to re-create as closely as possible the processes, conditions, pressures and rules of real processes, issues or events. This allows students not simply to hear about, but to experience a certain scenario. Students are also given the opportunity to develop skills and competences needed to handle similar situations 'for real'. (Fletcher, 2001, p. 368)

Experiential Learning in Teaching of Asia-Pacific Geography

The teaching of Asia-Pacific geography in Australia has risen despite the general trends away from regional geography courses and despite the decline in teaching of older style Third World Geography courses. One of the driving forces for Asia-Pacific Geography in Australia has been the strong sense, from the late 1980s, of a need for Australia's geopolitical repositioning to be reflected within our education system.² The diversity and dynamism of the Asia-Pacific has, moreover, provided a backcloth for transforming more conventional development geography courses into units of study that deal with generic themes concerning environment, economic restructuring, globalization and so on.

A problem in teaching regional geography focused outside Australia is, of course, the 'tyranny of distance' (Blainey, 1983) that precludes easy fieldwork, despite the relative proximity of the region compared with former European points of focus. Nevertheless, since 1988, the Geography Department at Sydney University has been running an Asia-Pacific field trip for Year III undergraduates on an annual basis. Destinations have included Thailand, Lao PDR, Vietnam, Malaysia, Indonesia, Fiji, Vanuatu, Samoa and New Caledonia. Until 1996, these field trips were appendages to units of study on Third World Geography and, latterly, Asia-Pacific Development. They typically carried a weight of some 10 per cent of a semester unit.

While the earlier field trips were popular and successful in many respects, students faced a number of difficulties applying the knowledge and experience back in a classroom setting. In terms of the learning cycle, they were rather short on reflection, re-conceptualization and experimentation, and there was little or no opportunity for iterative aspects of experiential learning to be applied. To overcome these constraints and provide a more self-contained learning module, applying an experiential learning approach, fully fledged Field Schools were commenced in 1997 and have since then formed an annual feature of the University of Sydney geography programme. The key difference between the field trip and Field School approach is that the latter involves lectures, readings and written assignments, group work at regional universities along the way, together with intensive interaction with students' peers at these universities.

Of course, the Field School is limited in terms of student numbers. From an annual intake of about 60 students into the Asia-Pacific Development option, there are only 20 places on the Field School. Financial constraints keep applications for the Field School below the full intake, but nevertheless competition has become heavy and a selection process is required. This in part has prompted the consideration of other experiential learning options in the unit, the outcome of which has been the Mekong electronic simulation/role play (e-Sim).

The following sections describe the use of these two techniques as they were applied during 2001 at The University of Sydney.

The University of Sydney 2001 Southeast Asia Field School

At the University of Sydney Field Schools are run every year, alternating every two years between Southeast Asia and the Pacific. The Field School approach involves a juxtaposition of field and classroom-based learning.

In January 2001 a group of 19 third-year geography students participated in the Field School to Vietnam, Laos and Thailand.³ The Field School is a collaboration between Sydney University students and Vietnamese, Lao and Thai students from five different universities and colleges. The competition for selection is rigorous and competitive, and selection of students is based on a range of academic and non-academic skills. In general the academic standard of each student is high, but demonstration of commitment, willingness to apply and develop cultural skills and preparedness to undertake a substantial orientation programme during the semester prior to the Field School are also important criteria.

The Field School takes place over 5 weeks during the summer break, and together with the e-Sim component, which students complete at the beginning of the first semester following the Field School, qualifies students for a semester unit of study. The students are required to complete a variety of assignments over the 5-week period including short papers and group presentations with their Thai, Lao and Vietnamese counterparts, based on conceptual and field-based study, written and taped assessment of village/field visits (later formatted for a multimedia CD-ROM), and a research report involving comparative method and drawing on fieldwork carried out in Thailand, Laos and Vietnam.

The main feature of the course is fieldwork experience at the village level to provide in-depth understanding of rural people's experience of development, their livelihoods and their relationship with the environment. A secondary feature is the working arrangement with Vietnamese, Lao and Thai tertiary students, which gives students a unique insight

into the experiences and views of their counterparts on a wide variety of issues such as ideas of development, socioeconomic change, and contrasting urban and rural values. Students are encouraged to learn as much as possible with, through and about their local peers, and to reflect on the diversity of experiences of development in each of the sites visited (Figure 2–4).

The Field School focuses on use, management, degradation and conservation of natural resources and the environment in the context of rapid rural change occurring in Southeast Asia. Modular themes are developed in lectures, talks by key actors and agencies, readings and through village-based fieldwork. Most of the lectures are given by the Field School convenor (Philip Hirsch), who also serves as interpreter in the large-group situations, and are supplemented by guest lecturers including local academic staff and development specialists. Fieldwork is carried out in small groups, the large group usually splitting into three, and each Australian student teams up with Vietnamese, Lao or Thai counterparts. For the latter, this is a chance to practise their English and to develop friendships and cultural interaction with Australian peers. Fieldwork comprises both village-based surveys and broader scale examination of environmental and developmental issues. Each student has a project topic that is researched comparatively across the sites visited and written up as a major field report on return to Australia.

The Field School itinerary is as follows (Figure 5):

- (1) *Can Tho University, situated in a provincial capital at the heart of the Mekong Delta.* Australian students attended lectures at Can Tho University on issues of resource management in the Mekong Delta before joining with Can Tho University Students on a 3-day visit to one of three rural sites in the upper (Dong Thap), middle (Can Tho) and coastal (Soc Trang) sections of the Delta, reflecting issues such as saline intrusion, conservation and livelihood pressures, impact of flooding, changes in cultivation systems, shrimp cultivation, water



Figure 2. Village visit.



Figure 3. Group presentation at GrassRoots Integrated Development (GRID) Training Centre.

management and agrarian change. In all sites, students spent time in villages where they spoke with local government officials and people about recent environmental and agro-economic change. On their return, group work involved preparation of joint presentations to combine local detail with a broader picture of the diverse agro-ecology of the Delta and its response to development pressures.



Figure 4. Field School student and her 'buddy' transplanting rice.

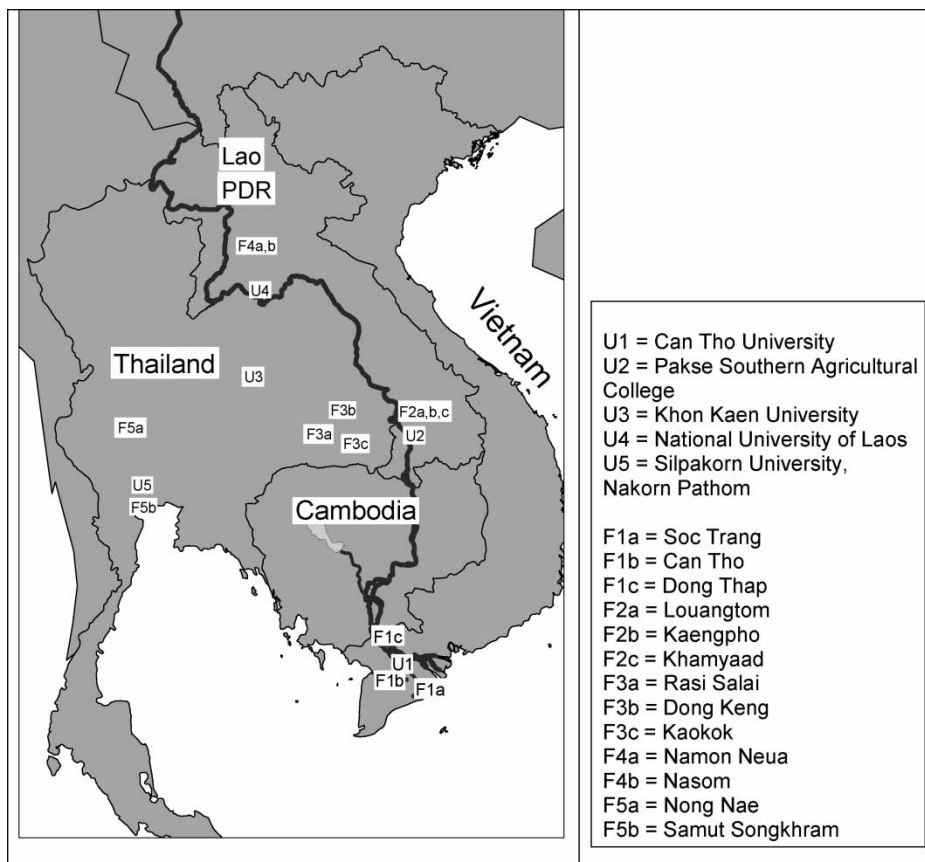


Figure 5. Field School itinerary.

- (2) *Pakse, Southern Laos.* After talks at the Southern Agricultural College, students teamed up with their counterparts and again split into three groups for a 2-day overnight visit to Louangtom, Kaengpho and Khamyaad villages next to the Mekong and the Sedone Rivers to investigate modern and more traditional fisheries resource management within a context of subsistence farming, fishing and forest-based livelihoods. The group then travelled down the Mekong River to Khong District to visit and discuss issues related to fisheries and development plans for the Mekong River, placing local conditions within their wider developmental context.
- (3) *Isan, north-eastern Thailand.* The rural conditions in Laos provide an interesting counterpoint to the very different situation found in Isan. The third field visit was to the GrassRoots Integrated Development (GRID) Training Centre, in Isan, where students met with their counterparts from the Department of Social Development at Khon Kaen University for three days of field activities. The focus of the activities was on conflict and cooperation in natural resource management in the context of changing livelihoods.

Overnight village visits again featured and students met villagers to discuss with them their experiences and techniques for dealing with controversial developments such as dam construction and eucalyptus plantations. Group work at GRID provided an opportunity for reflection and joint analysis and presentation of findings between the Thai and Australian students. Two days of lectures at Khon Kaen University brought the group back to the big picture and allowed the first opportunity for comparison between the three countries visited.

- (4) *Vangvieng District, Lao PDR.* The fourth field visit entailed picking up students from the National University of Laos (NUOL) in Vientiane and travelling to Vangvieng District in the mountainous part of upper Vientiane Province. Students saw and discussed with district officials both upland and lowland agriculture and issues surrounding development and competition for scarce land, water and forest resources typical of many parts of montane mainland Southeast Asia. They spent 3 days and 2 nights in the Hmong village of Namon Neua, examining small development projects and their impact, and engaging in a three-way (Australian-Lao-Hmong) cultural exchange.
- (5) *Lan Sak District, Uthaitхани Province, Western Thailand.* Students met with their counterparts from Silpakorn University and proceeded to Nong Nae village, settled in a recently cleared forest area during the 1970s and 1980s. Australian and Thai students were paired up and homestayd for 4 nights with villagers, learning through their Thai 'buddies' about both the positive and negative experiences of 'development' at village level, and gaining an extended experience of village life.
- (6) *Nakhon Pathom.* The final week was spent at Silpakorn University in Nakhon Pathom, west of Bangkok, in a series of lectures, discussions, presentations and assignments. The final field visit to the Central Thai coastal province of Samut Songkhram allowed students to investigate changes associated with intensification of agriculture for export and urban consumption and associated impacts of tourism.

Learning Outcomes

The Field School has multiple learning outcomes. In terms of geographic knowledge, the Field School gives students a detailed knowledge of the development geography of mainland Southeast Asia and an understanding of rural processes, emphasizing social, economic and ecological linkages. Students develop analytical skills in assessing resource management practices at multiple scales and an appreciation of the contradictions and complementarities inherent in sustainable development as applied and understood in Southeast Asia.

Other competences gained relate to cross-cultural experiences and the challenges of dealing with cultural difference and preconceived perceptions of development, including what it means to people in both rural and urban settings. Through observation and relationships built with their Vietnamese, Lao and Thai counterparts and villagers, the students gain first-hand knowledge of development and environment issues. This multi-perceptual experience, although often confronting, gives students a chance to internalize

these issues at a grassroots level instead of from the seat of a lecture theatre. As one of the field school students expressed it:

The field trip was one of the best experiences that you could possibly have at university. Walking through muddy rice fields, travelling by boat down the Mekong for eight hours and, most importantly, working with and learning from 'buddies' from local universities and colleges all contributed to the uniqueness of the experience. The local students were enormously helpful, especially given the sometimes very large language barrier. Being able to talk to local villagers and farmers, along with many others, provided perspectives which were invaluable to our study, whilst also allowing all of us to develop a much greater understanding of issues in South East Asia.

The Mekong e-Sim⁴

On returning to Sydney the Field School students joined with the lecture-based component of the unit Asia-Pacific development (comprising 40 students) and engineering students from the University of Technology Sydney, Adelaide University, and Sepang Institute of Technology (over 140 undergraduate students in all) to take part in a structured role-playing web-based simulation exercise on Mekong Basin development and environmental management challenges. The Mekong e-Sim was designed to constitute one component of the third-year Asia-Pacific development unit. Students were expected to spend approximately 50 hours over a period of 4 weeks on the e-Sim and evaluation comprised 20 per cent of the total marks assigned to the subject.

As a form of experiential learning, the Mekong e-Sim was designed as a cross-disciplinary learning experience specifically intended to develop learners' understanding of multiple perspectives on issues related to development, environment and technology within the Mekong region of Southeast Asia. It addresses the development of a range of skills, including students' awareness of social implications of application of their discipline, an understanding of other points of view, the ability to use information technology effectively, an ability to work with others and a capacity to deal with complexity and ambiguity (McLaughlan *et al.*, 2001).

The e-Sim was designed to address the development of these skills in a way that crosses discipline-specific boundaries, engages students in authentic learning environments and has cross-cultural and international dimensions. (McLaughlan *et al.*, 2001, p. 23)

The Mekong e-Sim incorporates the use of Information Communication Technology (ICT) into a role-play simulation. Role-plays involve participants deliberately adopting a role for a specific purpose and a simulation is a simplification of reality that maintains the essential functions of the simulated environment. In the case of Mekong e-Sim, 39 'personae' were created to represent key actors in the development/environment arena, for example villagers in an area due to be affected by a dam, government agencies and ministries, multilateral funding agencies, non-governmental organizations, business corporations, media and so on. Four to six students are allocated to one persona and share

the responsibility for developing and enacting the role of their persona. Group composition varies: approximately one-half of the groups comprised a combination of students from different disciplines or institutions. Face-to-face communication was therefore possible for students from two of the universities (University of Sydney and University of Technology, Sydney); however, because of geographic distance and time differences, interactions with students of Adelaide University and Sepang Institute of Technology relied entirely on the Learning Management System (LMS) Blackboard, which was used to host the Mekong e-Sim. This software allowed for sending email, text chat, threaded discussion forums and group-work areas.

Role-play simulations combine the attributes of both a simulation and a role-play where the simulation acts as the context and structure within which the role-play occurs. The simulation in Mekong e-Sim is a set of real-world issues involving complex development decisions that affect and involve different actors in different ways. Students learn about the adopted role, the setting of the simulation and the issues that cause interdependence among the roles as a consequence of their interactions within the role-play simulation, as well as through basic background research. The use of ICT allows the conventional face-to-face role-play situation timeframe to be extended and played out partly within student-determined timeframes, thus providing greater opportunity for reflection and technical analysis of options during decision-making by the participants, and also a written record of the interaction. It also allows the participation of students who would otherwise be restricted by time or distance (McLaughlan *et al.*, 2001). In the case of the Mekong e-Sim, it provides an experiential alternative to the more restricted (by numbers and finance) Field School.

The Mekong e-Sim is constructed around four stages: briefing, interaction, forum, debriefing. The Briefing stage involves participants becoming familiar with the e-Sim structure, geographical context, requirements and technology. It also involves them researching a range of different information sources to develop an understanding of the responsibilities, views and strategies of their adopted persona identity. Up to four students share a single persona.

The Interaction stage comprises interactions between different personae in response to events that have occurred and the actions of other personae. The events are modelled on news events (such as the announcement of a public hearing over the controversial plan to build a dam on the Nam Theun river in Lao PDR or the discovery/restriction of a scarce resource shared by various personae). Participants are therefore required to operationalize the understanding of their personae and the simulated environment gained during the briefing stage. This understanding of their personae is continually challenged and reshaped throughout the e-Sim as participants interact with other groups and experience consequences that follow from their actions. These interactions are conducted primarily using email and the discussion board on a Blackboard platform and run for 17 days. Discussion is also stimulated by those taking on the personae of media groups (*Vientiane Times*, Watershed and NBC). These are responsible for disseminating media reports of events and are key in allowing disadvantaged groups to have a voice—but also reflecting the real-world biases and propaganda of particular news agencies.

The Forum stage involves four real-time online public forums based around a simulated public inquiry over a period of 48 hours. Personae could post submissions in response to the specific terms of reference for each of the inquiries and then respond to other submissions. The topics chosen for the forums involve a proposal to build a large dam,

the development of a natural resource management plan for the Tonle Sap lake, and the prioritization of alternative regional transport initiatives. Another forum was set up to solicit funding proposals from personae relating to development projects they wished to pursue. During the forums students gain an understanding of the multiple perspectives and negotiations involved in each of the issues, and also form alliances and networks.

In the Debriefing stage, participants identify what they have learned as a consequence of participating in the e-Sim. The debriefing comprises the online publication of a critical incident report, which requires each participant to reflect on an incident that occurred during the e-Sim and their learning from that incident. This is supported by an optional face-to-face debriefing activity of approximately 2 hours conducted at each university. The debriefing session uses a structured process of guided recall, reflection and analysis of the role-play simulation, based on the experiences of the participants present and their understandings deriving from the online critical incident reports.

Learning Outcomes

The Mekong e-Sim was evaluated at each stage of its design and implementation.⁵ In this paper we focus on students' perceptions of their learning and responses to the e-Sim, which were evaluated using student comments in the debriefing essay, a paper-based student survey and focus-group discussions. The debriefing essays were analysed using the principles of the SOLO taxonomy (Biggs & Collis, 1982), which describes five structural levels of learning outcomes ranging from incompetence to expertise based on the structural complexity of responses. The paper-based survey, designed to assess student perceptions of the extent to which the e-Sim had assisted them in achieving the learning objectives, was administered several weeks after the conclusion of the e-Sim and produced a response rate of 67 per cent. The survey used a five-point Likert scale with 1 representing strongly disagree and 5 strongly agree. The responses from students from different institutions were aggregated and treated as one data set. Three focus groups were also conducted involving a total of 50 students from the University of Sydney and Adelaide University.

There was a high level of student agreement (91 per cent) that the e-Sim developed an awareness of multiple dimensions to natural-resource decision-making. There was also a high level of student agreement that the e-Sim had assisted them in developing knowledge about organizations in the region (94 per cent), and the values and attitudes of personae within the e-Sim (85 per cent agreed in relation to their own role and 82 per cent in relation to the roles of others). There was strong student support for the effectiveness of the e-Sim in developing their ability to work as a member of a team (80 per cent) (McLaughlan *et al.*, 2001; McLaughlan & Kirkpatrick, 2004).

Comments in student debriefing essays provide further support for the role of the Mekong e-Sim in contributing to students' awareness of the multiple dimensions of these issues and diversity of perspectives held by stakeholders: "The e-sim broadened my view about all the various interest groups that are involved in such a process, and the 'multiple agendas' that can arise"; "[I] gained more of an ability to view a situation as multifaceted rather than as 'good' versus 'bad'".

Practical skill benefits were also evaluated and students perceived that the e-Sim contributed positively to improved negotiation skills (71 per cent), problem-solving skills (57 per cent) and analytical skill development (52 per cent). Student responses to the e-Sim

as a learning activity were also evaluated, 92 per cent of participants rating the Mekong e-Sim as satisfactory through to excellent, and student comments elaborated on this: “It is undeniable that the e-Sim as a whole does capture the complexity of natural resource management decision-making. The unique experience provided in the e-Sim is one which transcends the restrictions of a classroom, enabling learning to occur in an exciting and highly motivating context”.

While the e-Sim resulted in student learning as a stand-alone module, students were also encouraged to apply their learning from the unit in general to their involvement in the simulation. Field School students were encouraged to use their experiences gained on the Field School to inform their responses in issue papers and elsewhere. To encourage this, attempts were made to give these students personae that allowed them to reflect their experiences to the fullest extent. For example, researching the persona of fishers on the Sedone river in southern Laos would have been more difficult for a student conducting research purely from secondary sources. Students who had not participated in the Field School reported benefiting from working with Field School students, who were able to provide insight into how they perceived their persona would react in a certain situation.

In the debriefing focus groups, the importance of inter-stakeholder trust (Fletcher, 2001) was raised. Students identified the conflicts and complexity arising from stakeholders’ ‘hidden and public agendas’. This then led to a consideration of how groups could develop trust amongst a group of stakeholders. While these issues were discussed in a more theoretical context in lectures, students reported having a more comprehensive understanding of what these complexities entailed having participated in the e-Sim.

While the benefits are significant, it should be noted that successful operation of the e-Sim requires considerable time and effort on behalf of both students and instructors, and often a change in teaching style and lecturer-student relationships. The role of the lecturer was largely organizational, and the lecturer-student relationship changed from instructor and knowledge-giver to process organizer and facilitator (Fletcher, 2001, p. 377).

Discussion: Modes of Experiential Learning on the Mekong

Two approaches to experiential learning have been described. Both addressed key substantive issues of environment, development and the diversity of ways in which change is being experienced. Both also addressed cultural encounters, both at the level of culture associated with place (different countries, urban and rural values) and discipline-based cultures among social and physical sciences and those with different world-views on development.

Diversity in experience of development, environmental change and rural social changes was conveyed through the Field School primarily through an opportunity to interact with, live with and discuss with a wide range of people including subsistence and commercial farmers, government officers, non-governmental organization staff, and fellow students in the three countries. The latter included some from very poor rural backgrounds and quite wealthy urbanites whose own experience during the field visits included an eye-opening first experience of rural life. There was, therefore, a degree of learning through the learning of peers.

In the e-Sim, on the other hand, diversity was experienced through the multi-stakeholder structuring of the exercise. The research and role-play associated with different roles gave participants experience both of the structural position of more and less

powerful actors, and of processes including those catalyzed by the media and key events such as public forums in which outcomes are influenced.

It has been noted elsewhere that experiential learning is a powerful tool for developing nuanced cultural understandings (Sachdev, 1997). The cultural encounter aspect of the two approaches engaged students in quite different ways through the field and virtual learning, but the opportunities for reflection and, even in the e-Sim, the development of an emic perspective on the substantive issues was noted by many of the participants as one of the more salient aspects of the learning experience.

The specifically geographical aspect of experiential learning in both cases is closely related to the interdisciplinary nature of the subject matter, and in the case of the e-Sim, of the participants in the exercise. Interdisciplinarity is generally a subtext within geography. It has been defined as “the capacity to integrate knowledge derived from disciplines which may have very different views as to what ‘counts’ as valid knowledge” (Jones & Merritt, 1999, p. 336). Its study has the potential to provide a common basis for understanding. Students are encouraged to take a holistic approach, concentrating on issues and problems rather than disciplinary concepts or inquiries (Tchudi & Lafer, 1996). Longitudinal research on interdisciplinary studies indicates that students learn how to tolerate and synthesize diverse perspectives, to think critically and more creatively and to develop greater empathy for ethical and social issues (Kavaloski, 1979; Newell, 2000; Schmelzkopf, 2002).

Both approaches engaged in a sequential learning cycle (Kolb, 1984), but the Field School was more iterative than the e-Sim. Because the Field School was originally developed specifically to deal with the shortcomings identified in earlier field trips that had not allowed for reflection and sufficient assimilation of learning, there is a strong iterative element in the programme design.

In the case of the e-Sim, the learning cycle is reflected more in the four-stage structure of the programme, which commences with a research exercise. The role description is a form of concrete experience in the sense of students putting themselves in the shoes of their respective personae, reflection in the articulation of this role for fellow students, conceptualization in relating that role within the multi-stakeholder framework to develop role strategies, and experimentation in the sense of formulating plans for achieving particular goals. The second iteration of the cycle involves concrete experience in the interactive phase, which includes a good deal of scheming, alliances, communication through various discussion boards and responding to emerging events that are introduced along the way. The public forums provide an intense and accelerated climax to this interaction. A reflective and analytical phase completes the exercise, in effect taking it through one and a half Kolb cycles of learning.

Conclusion

This paper has discussed two innovative and linked approaches to teaching the environmental and development geography of the Mekong Region. Both approaches enabled students to participate in learning experiences and gain different insights from those provided by a lecture or practicals. In the field school, this came through direct interaction with their Thai, Lao and Vietnamese peers and interaction with a variety of stakeholders who were able to share their experiences concerning the management, degradation and conservation of natural resources and the environment. The e-Sim also

engaged with these key issues through an innovative use of information communication technology, which offers flexibility not possible with the Field School in that large student numbers can be involved with minimal cost. This technology has also proved to be transferable. Since the running of the first Mekong e-Sim the concept has been successfully adapted to different scenarios, indicating its potential as a useful learning tool in other institutions and learning contexts.

Both the Field School and the e-Sim have produced numerous benefits across a range of skill areas. These comprise subject-specific benefits including detailed knowledge of the development geography of the Mekong region and substantive learning about the varying responses by different social actors to development and environmental challenges taking place. Students also gained more general skills in dealing with cultural difference and a capacity to deal with complexity and ambiguity through a better understanding of multiple perspectives. Although often confronting, these experiences gave students a chance to build their self-awareness from a hands-on perspective instead of from the seat of a lecture theatre.

Finally, these complementary learning approaches exhibit a more complete adaptation of the learning cycle through the careful consideration of the interplay between experience, reflection, conceptualization and application. Both approaches comprise not only key experiential components but also supporting elements in the form of linked preparatory and debriefing assignments, presentations and projects. These mechanisms allow students not only to prepare and reflect on the experience leading to greater learning, but also to relate it to their wider reading or the more explicitly theoretical aspects of the course.

Acknowledgements

The authors gratefully acknowledge Rob McLaughlan for his key role in the development of the Mekong e-Sim and also thank the students who participated in the e-Sim and field school for their enthusiastic participation and honest reflection.

Notes

¹ Learning in a diverse cultural setting can be referred to as cross-cultural, intercultural or multicultural. We primarily employ the term cross-cultural in order to emphasize the fact that learning occurs both at the interface between different backgrounds and world-views (i.e. intercultural) and in a polycultural environment where those who maintain quite discrete and isolated cultural approaches—i.e. not multicultural in the normal sense of the term—can be brought into a learning environment that facilitates learning across cultures.

² Asian studies within Australia has received support from the government since the 1950s and 1960s. Emphasis was placed on the languages, histories and cultures of the region and the geographic scope, which reached from India to East Asia and Indonesia, and was designed primarily to meet the precise requirements of the Australian Department of External Affairs (Ingleson, 1989; Milner, 1999). This support increased greatly during the 1990s and was reflected in specific disciplines including geography.

³ Twenty students were selected to participate, but one cancelled due to an injury shortly prior to departure. The group included one international student from Singapore and three students of Asian/Australian background. While a few students had some experience travelling in the region, the field school was still very much outside all students' lived experience.

⁴ The Mekong e-Sim was awarded a number of accolades. These include the ASCILITE (Australasian Society for Computer Assisted Learning in Higher Education) award for Best Web Project 2001; UniServe National Science Teaching Award 2002; Commonwealth of Learning Excellence for Distance Educational Materials (EDEA), 2002.

⁵ See McLaughlan *et al.* (2001), and McLaughlan & Kirkpatrick (2004) for a more detailed discussion on an evaluation of the e-Sim design.

References

- Arthur, N. & Achenbach, K. (2002) Developing multicultural counseling competencies through experiential learning, *Counselor Education and Supervision*, 42(1), pp. 2–11.
- Asakawa, T. & Gilbert, N. (2003) Synthesizing experiences: lessons to be learned from Internet-mediated simulation games, *Simulation and Gaming*, 34, pp. 10–22.
- Biggs, J. B. & Collis, K. F. (1982) *Evaluating the Quality of Learning: the SOLO Taxonomy (Structure of the Observed Learning Outcome)* (New York: Academic Press).
- Blainey, G. (1983) *The Tyranny of Distance*, 2nd edn (Sydney: Pan Macmillan Australia).
- Bradbeer, J. (1999) Barriers to interdisciplinarity: disciplinary discourses and students learning, *Journal of Geography in Higher Education*, 23(3), pp. 381–396.
- Brierley, G., Hillman, M. & Devonshire, L. (2002) Learning to participate: responding to changes in Australian land and water management policy and practice, *Australian Journal of Environmental Education*, 18, pp. 7–13.
- Buckingham-Hatfield, S. (1995) Student–community partnerships: advocating community enterprise projects in geography, *Journal of Geography in Higher Education*, 19(2), pp. 143–150.
- Clarke, D. (1996) The changing national context of fieldwork in geography, *Journal of Geography in Higher Education*, 20(3), pp. 385–391.
- Cutler, C. & Hay, I. (2000) ‘Club Dread’: applying and refining an issues-based role play on environment, economy and culture, *Journal of Geography in Higher Education*, 24(2), pp. 179–197.
- Dykes, J., Moore, K. & Wood, J. (1999) Virtual environments for student fieldwork using networked components, *International Journal of Geographical Information Science*, 13(4), pp. 397–416.
- Fletcher, S. (2001) Using stakeholder decision-making simulation to teach integrated coastal management, *Journal of Geography in Higher Education*, 25(3), pp. 367–378.
- Fortuijn, J. D. (2002) Internationalising learning and teaching: a European experience, *Journal of Geography in Higher Education*, 26(3), pp. 263–273.
- Gold, J. R., Jenkins, A., Lee, R., Monk, J., Riley, J., Shepard, I. & Unwin, D. (1991) *Teaching Geography in Higher Education* (Oxford: Basil Blackwell).
- Hay, I. (Ed.) (2000) *Qualitative Research Methods in Human Geography* (Melbourne: Oxford University Press).
- Healey, M. & Jenkins, A. (2000) Kolb’s experiential learning theory and its application in geography in higher education, *Journal of Geography*, 99(5), pp. 185–195.
- Ingleton, J. (1989) *Asia in Australian Higher Education*, Report of the Inquiry into the Teaching of Asian Studies and Languages in Higher Education. Submitted to the Asian Studies Council, Canberra.
- Johnson, J. H. Jr & Oliver, M. L. (1991) Urban poverty and social welfare policy in the United States: an undergraduate research training program, *Journal of Geography in Higher Education*, 15(1), pp. 25–34.
- Jones, P. & Merritt, J. Q. (1999) The TALESSI Project: promoting active learning for interdisciplinarity, values awareness and critical thinking in environmental higher education, *Journal of Geography in Higher Education*, 23(3), pp. 335–348.
- Kavaloski, V. (1979) *Interdisciplinarity and Higher Education* (University Park, PA: Pennsylvania State University Press).
- Kent, M., Gilbertson, D. D. & Hunt, C. O. (1997) Fieldwork in geography teaching: a critical review of the literature and approaches, *Journal of Geography in Higher Education*, 21(3), pp. 313–332.
- Kolb, D. A. (1984) *Experiential Learning: Experience as the Source of Learning and Development* (Englewood Cliffs, NJ: Prentice Hall).
- Livingstone, I. (1999) Role-playing planning public enquiries, *Journal of Geography in Higher Education*, 23(1), pp. 63–76.
- McLaughlan, R., Kirkpatrick, D., Hirsch, P. & Maier, H. (2001) Using online roleplay/simulations for creating learning experiences, *CAL-laborate*, October, pp. 23–25.
- McLaughlan, R. G. & Kirkpatrick, D. (2004) Online roleplay: design for active learning, *European Journal of Engineering Education*, 29(4), pp. 477–490.
- Milner, A. (1999) Approaching Asia, and Asian studies, in Australia, *Asian Studies Review*, 23(2), pp. 193–203.
- Monk, J. (2000) Looking out, looking in: the ‘other’ in the Journal of Geography in Higher Education, *Journal of Geography in Higher Education*, 24(2), pp. 163–177.

- Naidu, S., Ip, A. & Linser, R. (2000) Dynamic goal-based role-play simulation on the web: a case study, *Educational Technology & Society*, 3(3), pp. 190–202.
- Nairn, K., Higgitt, D. & Vanneste, D. (2000) International perspectives on fieldcourses, *Journal of Geography in Higher Education*, 24(2), pp. 246–254.
- Newell, W. H. (2000) Interdisciplinary curriculum development, *Issues in Integrative Studies*, 8, pp. 69–70.
- Pope-Davis, D., Breaux, C. & Liu, W. M. (1997) A multicultural immersion experience: filling a void in multicultural training, in: D. Pope-Davis & H. L. K. Coleman (Eds) *Multicultural Counseling Competencies: Assessment Education and Training, and Supervision*, pp. 237–241 (Thousand Oaks, CA: Sage).
- Poustie, M. R. (2001) Engaging students and enhancing skills: lessons from the development of a web-supported international environmental law conference simulation, *International Review of Law Computers & Technology*, 15, pp. 331–344.
- Ridley, C. R. & Lingle, D. W. (1996) Cultural empathy in multicultural counseling: a multidimensional process model, in: W. L. P. Pedersen & J. Dragons (Eds) *Counseling across Cultures*, pp. 21–45 (Thousand Oaks, CA: Sage).
- Sachdev, P. (1997) Cultural sensitivity training through experiential learning: a participatory demonstration field education project, *International Social Work*, 40(January), pp. 7–25.
- Schmelzkopf, K. (2002) Interdisciplinarity, participatory learning and the geography of tourism, *Journal of Geography in Higher Education*, 26(2), pp. 181–195.
- Stainfield, J., Fisher, P., Ford, B. & Solem, M. (2000) International virtual field trips: a new direction?, *Journal of Geography in Higher Education*, 24(2), pp. 255–262.
- Tchudi, S. N. & Lafer, S. (1996) *The Interdisciplinary Teachers Handbook: Integrated Teaching across the Curriculum* (Portsmouth, NH: Bonyton/Cook).
- Ternan, J. L., Chalkley, B. S. & Elmes, A. (1999) *Long Haul Field Courses: Lessons from the Plymouth Experience* working paper No. 4, (Plymouth: University of Plymouth, SEED Publications).
- Vincent, A. & Shepherd, J. (1998) Teaching Middle East politics by interactive computer simulation, *Journal of Interactive Media*, 98(11) Available at <http://www-jime.open.ac.uk/> (accessed August 2004).