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Multicultural and Creative On-Line Learning

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ABSTRACT

This paper is concerned with the use of a text-based environment – a Moo – to run theoretical and creative courses in the area of media studies. Two of the courses were multicultural and multinational while the third was monocultural. The courses were analyzed to understand further the variables that affected the creation or disruption of a sense of community amongst the students. Of particular concern was to identify what variables were due to the "development" aspects of the program and what might likely appear in other multicultural or mono-cultural environments.

Keywords: *Multicultural online programs; community; gender; culture; Moo environments*

INTRODUCTION AND METHODOLOGY

In this paper we consider three on-line learning projects: A Masters in Screenwriting run by the University of Bergen and the International Film School in Cuba (EICTV); an on-line screenwriting workshop organized by La Fábrica Film School in Bolivia; and a collaborative project on virtual exhibitions organized by the Corporación de Tecnologías Digitales in Ecuador and the Department of Information Science and Media Studies at the University of Bergen. All three projects involved creative and theoretical work within the broad area of media studies.

All three projects utilized a cmcMoo environment created at the University of Bergen in 1999. This free text-based environment allowed problem-based collaborative learning and community building across institutions with differing technologies and bandwidth scenarios.

The authors of this paper were involved in all three projects as teachers and coordinators. Transcripts of the online interactions were saved for later analysis and in our major case – the Screenwriting Program in Cuba and Bergen – students were interviewed at regular intervals to bring out their preconceptions and changing viewpoints on the online activities. (See Goodnow et al 2004 for a further analysis of this case).

To analyze the case studies we identified three core issues that shaped our understanding of net-based learning in multicultural environments. These core issues were: Offline and online contexts; the place of gender and cultural background; and conceptions of community and community-building. These three core-issues are obviously inter-related but they gave us some keys to begin to understand the variables affecting the running of the program and the relationships that emerged. We started from an interest in contexts as our first case was to be run in quite varied conditions (Cuba and Norway). The interest in forms of community came largely through the pedagogic approach we utilized: problem-based collaborative learning. The interest in

cultural background and gender emerged after the start of the program as it became clear that these were issues that had greater influence upon community building than we had initially presumed.

On-line and off-line contexts

It is tempting to concentrate only on one of these aspects - for example, choosing an emphasis on on-line contexts through analyses of the interactions that actually take place in the online environment. This is the most common approach to understanding ICT-supported online learning in monocultural and "developed" nations (Jones 1999). More common in studies of ICT and *development* is an emphasis on the off-line contexts such as technology, access and bandwidth. When trying to understand collaborative learning using ICTs we argue, however, that it is important to take into consideration both the on-line interactions and the off-line contexts and particularly the interconnections between the two.

The place of gender and cultural background

Particular characteristics of people e.g. their class, age and gender as well as issues of language influence various features of on-line participation, from interest in computer use to styles of communication (Kendall 1999). There is in fact little ongoing research on issues of gender and on-line learning as if technology has somehow made this concern obsolete (Venegas 2003). When we consider gender as a variable similarly to "culture", however, we found that these variables were far more subtle and required further nuances. In one of the programs gender was an insufficient variable – sexual preferences also played a role in interactions. Gender and cultural background were important aspects in relation to the online communication across the three programs - but with variations between the three. They were also important in the ways in which a sense of community was built and disrupted.

Understanding and studying "community"

The goal of many collaborative learning projects is to establish a community of co-learners building and exploring information together through ICTs (Fernback 1999). The key concern for analysis, then, is the particular ways in which people accommodate to each other, reconcile interests and create shared meanings and norms. Issues of identity and power become important. Differing forms of collaboration and communication need to be considered. Some students in our first study, for example, were seeking the warmth of community "gemeinshaft" but felt they were often met with the polite but individualist communication forms of "gesellshaft" (Tönnies 1957). These differing forms of communication and community formation then may be tied back together with issues of culture and the offline contexts. One useful way to study "community" was to look at how the participants conceived of on-line communities before and during the programs as well as to isolate moments in which communities break down. These disruptions often told us more about the interrelations than the moments in which the online work functioned smoothly.

A COMMON PEDAGOGIC APPROACH

Before we describe the case studies in depth, and look at the three areas above, there is a need to expand on the approach we took to forms of learning and instructional design as it affected community building in particular.

Early on we made the decision that we would work in all three cases with a combination of collaborative and individual projects based on problems either formulated by the teachers or by the students themselves. These problems were to be theoretical e.g. “how do concepts of national identity affect the representation of minorities in your country?” as well as practical e.g. “produce individual new media work or scripts based on an issue raised in the theoretical component of the course”. In two of the three cases we began with simple, small projects and gradually increased the size and complexity of the problem with expectations that the students should receive increased support from peers. This approach builds on a number of perspectives from learning theory and instructional design.

Working with complex projects and a branching multimedia platform, we were concerned with cognitive load (Miller 1957). Cognitive load relates to the amounts of information that an individual can remember or work with at a given time. Instructional design then needs to be able to manage both channeling the students’ attention as well as ensuring that they have access to all the materials they need. We also saw the need to promote the students’ “executive control” over the space they were working in and building. As the space grew in size with increased numbers of rooms and logged chats or conversations that were to be used as resources, there was a need to keep resource rooms open but clearly organized and marked, so that the students should feel some sense of ownership but also overview of the site. Executive control was also necessary for the students in the online conversations. In these conversations executive control relates to curbing digressions and tangential thoughts (Shah & Miyake, 1999). To this end, in each of the online conversations one student was nominated as the moderator with a mandate to keep other participants on track.

Reiser (2004) was also a useful source for our discussions surrounding software tools and instructional design. From Reiser we took the recommendation to concentrate on tools that 1) narrowed choices and decomposed tasks, 2) helped learners become aware of current tasks that needed their attention, and 3) helped them monitor their performance and refer back to earlier steps. Working with a multimedia platform required also thinking through in what forms information was being received by the students. During the conversations students were receiving multiple inputs – in written from a variety of sources, as well as visual form as the students posted examples of images they were analyzing. Sweller, Chandler, Tierney, & Cooper (1990) note the difficulties learners have when they must split their attention between multiple sources – particularly when these channels are similar. When a learner is working with verbal text, for example, it is difficult to receive and incorporate other verbal input. Sweller (2005) has more recently argued that mixing input channels e.g. speech with text, or visual with text, may reduce the level of noise. We also drew on designers such as Mayer (2001) on the combination of channels and the ways they undercut each other. We needed to ensure that students posted work in rooms and spaces that meant that the other students did not have to leave the main chat room and that the numbers of inputs at any one time were limited - the moderators had to ensure that only one student was posting images and presenting their arguments, while others were encouraged to respond.

The goal with our design, as with many similar projects, was to create independent learners who were able to see the benefits of collaboration and participation and identify the expertise of others. To reach that goal we planned for a gradual decrease of participation by the teachers involved. Teachers were to provide “scaffolding” at the start that was to gradually be removed as

students were to work independently and with peers. Within instructional design, scaffolding is a widely used concept (Quintana, Krajcik & Soloway 2002; Reiser 2003). For Quintana and colleagues, visual scaffolds were found to be the most useful. They warn, however, that scaffolds are should not make the task too simple or easy to complete. The scaffolds we provided our students were both written and oral. We provided the students with worked examples of analyses and breakdowns of individuals scenes and we provided direct, individual feedback and step by step support in the completion of tasks. Other theorists, such as Roschelle and Pea (1999), however, have argued that a focus on scaffolding by teachers may come in the way of promoting interaction between students and for us, these two forms – teacher scaffolding and promoting wide as well as focused peer interaction – needed to be weighed up against each other.

Rogoff (1995; 2003) was a useful source for our concern with tying scaffolding to participation and community building. Rogoff sees participation as the core process in all learning with scaffolding a process of guided participation. Lave (1996; Lave & Wenger 1991) furthers this concern with participation and scaffolding as having a primary aim to build communities. Lave argues that learning takes place as people move from being peripheral participants ("eavesdroppers") to being full participants. What is to be encouraged is a "community of learners".

With students coming from a variety of countries and a variety of disciplinary backgrounds we were concerned to develop a community of learners that also acknowledged the different students' areas of expertise – and preferably drew upon them. When the students were to work together they were not expected to all play the same part but divide tasks between them. We borrowed Hutchins' (1995) metaphor of ship being navigated into a port as an example for ourselves and the students. In this metaphor, the captain does not need to know everything but she does need to know who has particular expertise and can be drawn upon when needed. The students had different domains of knowledge - some students were directors, some had new media skills, some had a greater theoretical background (for "domains and learning" see Chi 1983). The students also had some "situated expertise" in particular areas (Greeno 1997) and our concern was that this was to be drawn upon and transferred to other students and other domains (see, for example, Andersen, Reder and Simon 1997).

Using ICTs to encourage participation and collaborative work is also at the core of CSCL (Computer Supported Collaborative Learning) research and design – a field we also drew upon. CSCL emerged in the 1980s as a field that attempted to bring together developing technologies and learning theories. It brings together concepts of interaction among peers, of distributed cognition and learners as active participants (Koschmann 1996; Lipponen 2002). For us, CSCL's focus on resources as people as well tools was particular important.

Finally, bringing us back to evaluation: We were concerned with how to design a program based on learning theories but equally to evaluate the affect of the technological design on collaboration combined with other socio-cultural factors: community-building, cultural and gendered background and online and offline contexts. With this very brief introduction to our core issues we turn to the case studies themselves and some of the findings.

CASE STUDIES

Case Study 1: Master of Screenwriting EICTV and the University of Bergen

The Masters in Screenwriting was conceived by the organizers as a form of cross-cultural education in the field of film theory and practice. The pedagogical approach, as described above, put an emphasis on student-student learning, based on sharing models and testing out hypotheses regarding media, representation and diversity in a variety of contexts and from different political and cultural perspectives. Students also developed creative work and discussed this with their peers online.

The Masters was held simultaneously in Norway and Cuba. A group of 22 students were accepted into the program, 13 based in Norway and 8 based in Cuba. The students came from a variety of countries including Ecuador, Bolivia, Colombia, Panama, Venezuela, China, Egypt, Cuba, Costa Rica and Norway. Each group was multicultural. It is worth noting, however, that the group in Cuba was primarily Latin-American. English was the common language for all and most of the on-line teaching and group work took place in English.

Regarding offline contexts, the two institutions involved in the network were very different in their administration and technological contexts. The EICTV Film School in Cuba is a very prestigious institution located 7 kilometers outside of Havana. The school is multicultural in nature, accepting two students from every Latin American country every year, as well as a few students from Europe, Asia and Africa. The Masters students at EICTV received accommodation and boarding within the school's campus. As a small group, they had unrestricted access to video equipment that allowed them to integrate multimedia materials to their work. Their access to the internet, on the other hand, was very limited. The economical and political specificities of Cuba as the program's host country meant that the students based in Cuba had access to internet only at EICTV's computer lab, consisting of 5 computers connected by dial up. Electricity black outs, technical problems and weather conditions affected the access of this group of students as well.

The group based on Norway, at the Department of Information Science and Media Studies, on the other hand, had unlimited internet access both at the University's labs and at home. They also had their own off-campus accommodation and thus met each other mostly in class-related activities. Many of the Norwegian students had paid part-time work in addition to their studies. They were also more likely to be in relationships and have family and established friends in proximity in contrast to the foreign students in Norway or the student group in Cuba. These differing contexts affected particularly the inter-relations amongst the physical student groups but also the on-line interactions as the ethnic-Norwegians were often carrying out parallel activities while on-line (e.g. they were at work, at home with family etc.) while the other students were dedicated to the forum.

With a straight technology-access perspective, it would be easy to presume that the student group in Cuba, with their limited technology, would be the least active on-line. In fact, the scarcity of the technology, combined with other off-line contexts such as few alternative demands meant that the "Cuban" students were often more prepared and active online. At the institution level, there were also other important offline issues. EICTV saw the program as a pioneer project for their own plans for online creative content. As an international renowned institution, they saw their participation as an equal partner in the collaboration. Sections of the institution in Norway, however, continued to see the program in a "development" perspective and this affected attitudes, organization and financing of the programs. It had also some initial effect on student perspectives but these seemed to be quickly dispersed when students first met and levels of expertise showed up similar strengths.

The program involved both theoretical as well creative coursework. Teaching in both areas was problem-based with students seeking solutions individually and collaboratively. The main on-line collaborative teaching and learning program was a theoretical course named *Media, Culture and Society* in which a variety of issues on national and regional identity and representation in the media were raised. The course organization in both sites involved classroom-based lectures and readings on particular topics followed by individual assignments such as posting short essays on the MOO site. At the end of the week, the students met in the Moo in groups of four (two from each site) to present their work to each other and to discuss each others work in a forum with the aim of developing understanding further. Teachers were present in the Moo during the forums to ask questions and offer insights but the emphasis was increasingly on student-student interaction.

Following the concerns raised earlier regarding cognitive load and scaffolding, we began with small problems and projects that students were to solve. Input and feedback came primarily from the teachers in class and online at the start of the program. The students were encouraged to listen – or eavesdrop – on the others presentation and the feedback from the teachers initially – but then to increasingly take part in the analysis and feedback of the work. Later projects were larger and involved collaborative problem-solving with less teacher feedback and input. The goal, as described previously, was to create a "community of learners".

The online environment created in the MOO used a tenement house, called in Spanish "Conventillo", as its metaphor. This is a typical house in many Latin American cities, where several families are accommodated by building new apartments and rooms within the one building. This metaphor seemed appropriate given the majority of Latin American students in the group and the fact that the main tool in the MOO is building spaces that can be connected to each other. Each student built a "room" of their own, although most exchanges took place in common formal areas such as classroom and booths built for groups of student to meet.

Reactions to the online forums were varied. They were generally positive. The orientation to student-student learning and collaboration in the forums was commented upon by some of the Latin American students as an unusual form of working from their experience. With a teacher actually present the initial expectation was that the teacher would have a more decisive role throughout. This initial hesitation towards student mediators and leadership in the forums was, however, quickly overcome though some women in particular found it hard to keep executive control. Students with poorer language skills were also disadvantaged though fellow students often did come to their aid – particularly students from their own region or same gender in the case of the women.

"Culture" emerged also in the form of some students, cross-nationally, being regular members of other online forums with different agendas e.g. gaming, friendly banter on common interests etc. These other experiences of online communities seemed then also to affect their approach and attitudes towards the online forums in the program. Our concept of "culture", in other words, needed to be broken down and away from solely ethnic terms.

These other online community experiences also affected some gender-interaction. As Kendall (1999) has pointed out, online banter within primarily male online communities often allows for forms of sexual stereotyping that in formal face-to-face meetings would be suppressed. This was also occasionally the case here with again the students with more online community experience being the worst offenders rather than a particular nationality.

Language and regional identity also affected community-building both in positive as well as negative ways. The Latin-American students in Cuba and in Norway found that they had a stronger regional identity than previously expected and interacted with each other in the forums

and outside of formal work-time to develop these relationships further. Occasionally in the forums students would resort to other common languages (Spanish, Norwegian) than the program-language (English). How this occurred and with what purposes affected the sense of community quite strongly. When it was presented with the purpose of aiding a student who was having trouble understanding a concept it was accepted and strengthened community feeling. When it was perceived as being a way of commenting on the forum or others – whether that was true or not – any sense of community was quickly shattered. (This was particularly the case when students attempted to "whisper" to each other – a function allowed in the Moo – but accidentally broadcasted the behind the scenes conversations.)

What we learnt from the Screenwriting case: The virtual classroom space with its metaphors of offices and private spaces did aid a sense of community but could have been better utilized. Regular and updated training in the use of the tool was also necessary and could have been extended (for both staff and students) to get full use of the cmcMoo environment. The text-based Moo environment functioned well for discussions but was limited for showing multimedia work to each other. The goals of the forum and the expectations of preparation needed to be spelt out very clearly as each student brought to the forums a variety of preconceptions as to how online communities could or should function. As described above, students with less access had far more expectations to what should be achieved in the scarce time available than students with fulltime access and these differing levels of preparation affected the sense of community.

In the second case-study the same environment was utilized and the concern was still with the analysis and development of creative work. This case allowed us to further identify what issues related to the environments we were working in – on and off-line - and how our instructional design and learning approaches functioned with a different group of learners.

Case Study 2: Screenwriting Workshop at La Fábrica Film School (Bolivia)

This workshop was organized by La Fábrica Film School in Cochabamba, Bolivia in collaboration with the Department of Information Science and Media Studies of the University of Bergen. In this program the work was primarily creative rather than theoretical. A loosely problem-based approach was still utilized – the students were expected to develop a screenplay during the program. Collaboration took place through students presenting their work to each other in the forums as well as through role-play.

In this case the students were all based in Cochabamba, Bolivia, while the teacher was based in La Paz, three hundred kilometers away. The workshop started with an initial physical face-to-face course in both screenwriting and the use of the MOO. The primary teacher then returned to La Paz and "met" the students twice a week to work on specific screenplays in the MOO environment - a new door was added to the Masters' "Screenwriting House" leading to the "Factory" (referring to the school's name "La Fabrica").

Students were again allowed to build their own rooms within the factory, but the rooms were in this case not related to them personally but instead were the primary locations for the screenplays they were working on. Some common areas were built as well such as a storytellers' bar and a rehearsing area.

The main goal for the use of the MOO in this course, besides bridging the space between teacher and students, was to explore a text-based online environment as a tool for creative writing. The possibility that the MOO environment provides its user to build objects, characters and spaces makes it a unique tool for role playing, a feature that was broadly utilized within this course to overcome shyness and to better develop characters and scenes in the process of screenwriting.

Once the first stage of developing story ideas collaboratively was completed, the students started to improvise the scenes in their scripts with peers playing the role of some of the characters involved.

It is usually difficult for screenwriters to submit their work to the review of peers before it has achieved some level of completion. In this case, however, the very goal of the exercise was to present the work in progress to peers, thus giving the writer a chance to structure their ideas from the very onset in a presentable manner.

The result of the exercise could be seen as the creation of a community of writers, all involved in each other's stories, enjoying or criticizing their developments. Students were also able to meet and talk about their screenplays face-to-face between MOO sessions, which enhanced the experience.

A set back can be found in the fact that, as the projects grew into their feature length size, they became more and more difficult to share and discuss on the time frame given for the MOO sessions. So, the exercise proved useful for the first stages of story development, but once the projects started to take form there was a need to resort to one-to-one sessions between writer and teacher.

In other words, we began this project with a high level of teacher involvement and small problems and projects in the face-to-face course with short practical exercises and regular teacher feedback. The students were given clearly identified problems for them to solve either through the materials they were given or through independent research. The problems e.g. using specific parts of the Moo, or learning to break down a script, increased in complexity at the same time as students were expected to increase their participation in the other students' work. Role-playing online allowed the students a safe way to increase their participation (move from the periphery to the centre) before being asked to be critical of each other's work.

Despite the fact that the students were in the same town, they accessed the internet in different locations - most of them from Internet cafes in their own neighborhoods. This meant a few problems regarding opening and closing hours, as well as technical difficulties involving the different bandwidth in different cafes.

Contrary to the Masters program, all the students were Bolivian – as was the primary teacher (Veronica Cordova – a part-time senior lecturer at the University of Bergen but residing primarily in Bolivia and working also at the Universidad Católica in La Paz). For a wide variety of primarily cultural reasons this course was easier to run than the Screenwriting program. All students and teacher were from roughly the same cultural and social background. Even to the extent that only one of the students in this group was male, and he withdrew from the program a few weeks after it started, which resulted in a female-only group of students with a female teacher.

The screenplay to be written also pertained to specific Bolivian stories, characters and cultural events. This meant that the interactions the students and teacher were able to draw on more common ground. (Common knowledge was important. In the Screenwriting case, Hollywood films were often the only common film history. When subgroups would discuss Latin American or European films to exemplify their own work, the sense of community would break down.) The common intellectual and representational history made the work flow faster, although some problems were still found in interacting in a virtual environment whose design language was English, when all interactions took place in Spanish.

What we learnt from the Bolivian case: One important aspect learnt in this case study is the need for interaction tools to be available in the students´ own language in order to be fully utilized.

Many breakdowns in the community building and the creative interactions could be related to a lack of understanding of the English commands utilized or the responses of the program to mistakes in its manipulation.

Regarding creative content - the text-based nature of the MOO offered a very interesting venue for creative collaborative work as it helped overcome common problems in this field: Lack of meaningful feedback, shyness on the part of the writers and overtly individualized work. The combination between face-to-face and web-based work was important in this case, as students needed to first "see" their teacher and each other in order to build a trusting community, indispensable for creative interactions. The limits of peer-collaboration became apparent here, however, as the students were not able, in the short period of the course, to develop sufficient expertise to guide their fellows in the final stages of the script development. We realized that we had to be more flexible regarding our instructional design.

On the background of the success of this somewhat more simplified program, we chose in the last case to run some subgroup work in particular languages and with particular concerns (e.g. in Spanish or Norwegian on regional representations and audiences).

Case Study 3: Collaborative Design Project between Corporación de Tecnologías Digitales (Ecuador) and the University of Bergen (Norway)

This final case was also a creative collaboration - this time between New Media students at the University of Bergen and students from the Corporación de Tecnologías Digitales Multimedia School in Ecuador.

Both groups of students developed virtual exhibitions using the same multimedia materials. Although the work was to be completed by student groups within each institution, collaboration using the MOO involved peer review between the two countries of structures and ideas, as well as comparatively assessing the use of common materials.

In this case also, supervision took place in the MOO, with teachers in Bolivia, United States and Norway meeting regularly with both groups of students in Ecuador and Norway to assess their work. In this case, however, the MOO was used mostly as a chat tool. Although the students were given privileges to build spaces and objects in the MOO environment, most students did not use these privileges outside the specific face-to-face training in the use of the MOO.

The instructional design of this course was therefore different than the two cases described above. Most of the initial training in multimedia production took place separately in the two sites. There was also no collaborative production across sites that could draw on the strengths or domain expertise of the different members of the community. Little time also meant that the problem given – create an online exhibition surrounding the theme of Chilean refugees – was uniform and presented in its entirety at the start of the course rather than broken down into a sufficient number of components as was the case in the other courses. The central forms of collaboration and participation were therefore quite different than in the other two cases.

Within each site the students had a common cultural and linguistic background. In the Ecuadorian site all students were from Ecuador and in the Norwegian site all students were from Norway. Not all students in Ecuador spoke fluent English, however, for that was not a requirement for their enrolment in the program. Groups were organized in Ecuador, therefore, with at least one person fluent in English in each team. This placed the responsibility for on-line interactions to that one person, leaving the others primarily responsible for content and technical development of the projects. This we believe now was detrimental for the interrelations between the group and

affected the communication with their peers in Norway. More than once the fluent English-speaker did not turn up to the meetings leaving staff to translate or leading to a break down of the forum. The staff in Norway, Bolivia and the U.S. were all bilingual (either Norwegian-English or Spanish-English) or trilingual. One staff member, however, did not write fluently in Spanish limiting her interactions with students and staff in Ecuador. In Ecuador only some of the staff were bilingual leaving again perhaps undue pressure on the staff members that were bilingual.

The interactions this time took place mostly within organized classroom time within the computer labs in the institutions involved. The students in Ecuador worked, similarly to those in Norway, in groups of three or four on common virtual exhibition projects. They had a fixed timeframe to deliver their projects as part of their semester grading. Teachers in the Ecuadorian institution were involved in the project encouraging the students´ participation and supervising the technical aspects of the projects development. They left the content and the follow up of the collaborative on-line work, however, to teachers abroad. (The collaboration was initiated in Norway and the other teachers in Norway, Bolivia, and the US had had previous experience with working online and insufficient time was set aside to teach all the Ecuadorian staff members in the use of the Moo).

The creative work this time, as noted above, was the multimedia design for both CD-Rom and website delivery of a virtual exhibition for a Chilean museum on the issue of Chilean refugees or exiles. The type of work involved – designing artifacts - resulted in students spending much more time working on their own in their institutions than collaborating through the MOO. Also, in this case the text-based nature of the MOO prevented students in Ecuador from showing their work to their peers, as they did not have a sufficient server in which to place their work. Because of this the discussions on the MOO often became too abstract and students did not find them as useful as the students in the Bolivian case except in the situations where we set up monolingual forums e.g. Spanish-speaking teachers with a student group from Ecuador which were often very successful.

Outside of these sessions, the tape recorder function of the Moo was particular useful to partially overcome language difficulties between the students and between staff and students. The tape recorder is an object in the MOO that allows users to build, and it stores conversations in the chat sessions in text files. Students were thus able to retrieve the interactions with teachers and peers and the feedback to their projects so as to implement suggestions.

A final offline context: As in the Cuban case, in Ecuador the off-line political context affected the interactions directly, when the popular demonstrations that ended in the overthrown of Ecuadorian President Gutiérrez prevented the students from meeting in the MOO (schools were temporarily closed) and provoked a delay in the projects´ overall schedule. These situations, though uncommon, need to be considered when developing tight program-schedules.

What we learnt from the Ecuadorian case: In contrast to the Bolivian case, in this project students and teachers primarily met each other face-to-face within their institutions. Students in Ecuador only met one of the projects' foreign teachers when she traveled to Quito to get the program running and to hold a week-long seminar on the theme of the project as well as in using the MOO. Other than that, the interactions with other teachers and peers were exclusively on-line. Creative communities require a sense of trust in each others' understanding of our ideas and propositions, so as to be able to acknowledge each others expertise in particular domains. With the exception of some students, again often students with previous online community experience, many of the students remained "eavesdroppers" in the teacher-student interactions rather than becoming fully-fledged participants commenting critically on each other's work.

The text-based nature of the MOO was in this case a hindrance to the collaborative work, due to the hands-on and highly multimedia nature of the project the students were working on. Not being able to "show" their work but just having to describe it to others was useful to the extent that students were forced to state clearly the content descriptions and functionality of their projects, but once this was achieved the MOO interactions became increasingly frustrating, which, combined with a lack of collaborative problem-solving, led to communication breakdowns with eventually some students not appearing at the online sessions. No shows broke down the sense of community even further.

CONCLUSIONS

One general conclusion we wish to highlight here is that is important to look for the nuances surrounding the concept of "development". Not all the difficulties commonly perceived as being related to working in a "developing" country can be tied to the South country. In our first case many of the detrimental issues related to "development" could be tied to attitudes and expectations in the North particularly from within the institutions of the North – staff and administration.

Furthermore it is important to differentiate between issues related to multicultural or multi-social programs and those related to "development" programs. As Lori Kendall has pointed out in her study of the US-based online community *Blue Sky*, there are many socio-cultural issues relating to ethnicity and gender that appear in national programs that are often insufficiently considered (Kendall 1999). Many of these we found resurfacing in our multicultural programs and which didn't relate necessarily to "development" but did affect community-building. Rough or obnoxious behaviour, for example, as Kendall also argues, is more common in male-environments and is not necessarily linked to ethnicity. Common forms of jocularity or inter-gendered behaviour is likely to resurface and become extended in online communities. At times, in our cases, and in particular in our first case, this behaviour was seen as linked to cultural background but could also be traced to conventions of online, male-dominated communities globally. The Norwegian males with extensive online experience were as likely to be obnoxious as the Latin-American or Arab males but there remained a danger in this behaviour amongst the latter two groups being seen as stereotypical or "underdeveloped".

To understand the nature of the collaboration, it was important also to look beyond the students and consider the teachers' online and offline interactions. In our first two cases the teachers knew each other well having collaborated on research and teaching projects previously. In the third case, this previous collaboration had not taken place and too little time and resources were given to create a common understanding of the goals. Here also the issue was not multicultural, ethnic or national – the teachers in the first two cases were quite diverse – Australian, Bolivian, Chilean and Norwegian. The breakdown in communication in the third case could have as easily taken place within a single country and can be traced to lack of time and resources. There did remain, however, an issue of who ownership and initiation of the project. The course was an interesting but "foreign" project for the Ecuadorians. However, and despite our criticisms here, one they wished to repeat.

Successful collaboration, or a successful creation of independent communities of learners, depended in the end primarily on the design of the program. The problems to be solved needed to be graded slowly with scaffolding in place in the form of people – teachers and expert peers – and tools – archives, examples etc. - clearly in place at the start and gradually being removed. Equally, the cognitive load had to be monitored with students being kept aware of limited primary tasks at hand. Executive control was necessary both within the online conversations as well as in the ability to maintain an overview of the site and spaces they were working in. When the chats

broke down through a lack of moderation or preparation, this had an immediate effect on the sense of community that was created. Students worked in groups drawing on the expertise of others and the respect engendered by the awareness of each others' expertise clearly added to the sense of community cohesion and strength. This expertise was at times practical but also related to cultural and historical understanding.

Face-to-face interaction was useful in our cases to create community cohesion but only when the same approach to instructional design was taken – as in our second and most successful case. In our first case, the face-to-face interactions between the students in the latter half of the program was insufficiently coordinated and we presumed, incorrectly as it turned out, that the students would be able to transfer the skills of critical analysis and participation that they had developed online to the face-to-face situation. In fact, in the face-to-face interaction, much more attention was required to encourage the shy or peripheral members of the community to become active, central participants. Language difficulties were less of a problem in the face-to-face interactions but the lack of physical distance led to the re-emergence of stereotyping and reminders of physical difference.

The program we ran with a group from similar socio-cultural and language background was the most successful despite it being run within a very poorly-resourced country. This does not mean that few resources do not restrict a program but that it is important to look beyond technological constraints to find the difficulties as well as the potentials in multicultural or mono-cultural programs. That a strong sense of community was created amongst this group despite limited access could be traced to increased expectations as to what was to be achieved in the course of the online sessions. The limits of the student expertise, however, led to a change in the forms of collaboration amongst this group – from active participation through role-playing to becoming again "eavesdroppers" in the student-teacher interactions. This did not mean, however, that there was less of a sense of community as that had been firmly created earlier on in the program.

Constant evaluation, avoidance of perceiving difficulties or breakdowns as ethnic-based, a careful look and structuring of instructional design, as well as an awareness of the effect of offline and online factors, are clearly necessary to ensure the successful development of communities of learners in both multi-cultural and mono-cultural groups.

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