Authentic Learning Practices: International design project

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Abstract

Higher Education is experiencing an increasingly diverse student population. Students bring a range of skills and experiences to their courses; they have different backgrounds and different needs. This fluidity requires an approach to teaching that encompasses the social aspects of learning. It has been suggested that authentic approaches to teaching and learning can assist in offering a perspective on learning which views learning as 'enabling participation in knowing'. We propose that the authentic learning practices developed in The Gift design project, discussed in this paper, constituted approaches which acknowledged that students' interests and experience are intrinsically bound up with motivation and engagement and, as such, have a major influence on the ways in which learning is constituted and developed. The Gift project has developed a range of innovative formative strategies which have provided both students and tutors with opportunities to become involved in peer assessment and review, peer feedback and reflection on learning outcomes. This re-conceptualisation of the assessment process has provided valuable insights into the development of learning skills such as problem solving, critical analysis, and the development of creativity and learner autonomy.

Keywords: international, formative assessment, peer review, the global studio

Background

Higher education in the United Kingdom is currently undergoing significant challenges and pressures in relation to change. The successful learner is now not viewed as someone who can acquire knowledge and skills, but as someone who knows 'how to learn'. Communication, collaboration and problem-solving abilities are seen as positive qualities in the learner, and positive educational outcomes (Benson &Toogood, 2002).

These concerns are reflected in the national agenda to raise the standards of learning and, as such, have become an important national priority. Various studies (e.g. BIS, 2009; Kogan&Teichler, 2007) indicate that today's graduates need to be able to: apply knowledge when working with people, be able to work independently, be efficient problem-solvers, engage in self-evaluation, and be able to develop higher order skills to become 'lifelong learners' in an increasingly globalised, technological world. The Leitch Report (2006) has highlighted the role of Universities in developing 'Lifelong Learners'. Lifelong learners are described as to: 'learn independently, think creatively, solve complex problems, manage time effectively, show determination and resilience, and work with others.' (Institute of Directors, 2008, p. 22)

The increasing globalisation of the production, distribution and consumption of goods and services is both the condition for, and the consequence of, major changes in the ways consumer products are developed, manufactured and consumed (du Gay, 1997; Hawranek, Jung, &Tietz, 2005; Hoppe, 2005; Reich, 1992). These changes include the contemporary shift to the geographic distribution of design teams. Therefore, designers nowadays often find themselves developing products that will be designed, produced, marketed and consumed globally in markets distant to the country were they are based. They also might need to collaborate with colleagues who might be based in different countries. This means that designers often require additional skills to those needed in more-traditional workplaces (Larsen &McInerney, 2002; O'Sullivan, 2003; Song, Berends, van der Bij, &Weggeman, 2007; Xie, L, Fung, & Zhou, 2003). In addition, this situation of 'virtual worldwide collaboration' and the new emphasis on speed and flexibility requires a new and different approach for managing new product development – which utilises a parallel way of working that involves regular customer/client input whilst being heavily reliant upon clear and precise communication. This approach requires designers to work well with others in a high pressure, tightly focused environment.

The Global Studio has been developed to prepare students for this method of working for markets and production in other cultures and distant locations. The idea of the Global Studio is inspired by the changes that current trends in manufacturing have shaped the way designers develop their products(Bohemia, Harman, & Lauche, 2009). A large body of research has signalled the shift from a linear and hierarchical model of product development and manufacturing, where everything happened in proximity, to a model of 'agile' manufacturing characterized by virtual partnerships and the dispersal of the design process. The new global division of labour has meant that design teams are now scattered across the world as they contribute to the different components of the same commodity. For designers these changes mean cultivating additional skills to those required in a traditional work environment. The Global Studio addresses the need for a learning environment that prepares students for this virtual, networked world(Bohemia & Harman, 2008).

Since its launch, the boundaries of the Global Studio have continued to expand through the delivery of unique teaching projects with the collaboration of leading international academic and industrial partners. 'The Gift' project is one of these initiatives, developed

in partnership with universities across the world. Throughout The Gift project students take up both the roles of the 'client' and the 'designer' with students based at other universities. Communication between students was conducted online using web tools, emails, Skype and teleconferencing(Bohemia, 2011; Ghassan & Bohemia, 2011). Issue The project involved students who were based in Canada, England, Japan, Taiwan, Australia and Korea.

Objectives

The idea for the theme employed in The Gift project was inspired by the anthropologist Marcel Mauss' classic book 'The Gift' (Mauss, 1950, 1990). This text puts forward a theory which argues that 'giving', 'receiving' and 'reciprocation' are fundamental social activities linked to interaction between humans. These interactions are part of cultural practices and 'carry meaning[s] and value[s] for us, which need to be meaningfully interpreted by others, or which depend on meaning for their effective operation.' (Hall, 1997:3) One of the aims of the project was for participating students to begin to explore the 'work' artefacts 'do' in relation to social practices (cf. Johnson, 1988). The project aimed to encourage students to explore various questions related to intercultural communication and Design and to enable students to develop key skills not only in product design and development, but also in cross-cultural communication. The project aimed to provide students with opportunities to gain experience in using 'distance communication tools' and gain critical peer feedback from the other students involved in the project. The project aimed to provide opportunities for students to explore cultural aspects associated with an overseas client and to act as a client in return. Pivotal to the success for the project was the exchange and evaluation of information between the different groups of students.

The social practices investigated during the project related to the 'giving', 'receiving' and 'reciprocation' of gift(s) designed by the participating students. This project was an opportunity to open spaces for participating students to discuss rituals, ceremonies and protocols related to 'gift exchange'. It was also an opportunity for students to investigate their own and their collaborators' cultures (Bohemia &Ghassan, 2011b).

Teaching and Learning

The teaching and learning strategy for the project employed pedagogic strategies which were designed to develop a range of student attributes. These included core design skills, communication skills, problem solving skills, group working and collaborative skills, time management and project development and skills in relation to the development of criticality. The project approach was to make the task as 'real' and meaningful for the students as possible. This involved deigning the project to include a range of 'authentic' learning experiences and activities, with the aim of providing students with a 'vehicle' to both become engaged in the project and to act as a means to provide relevance for the task. This included inviting speakers to seminars to discuss their own experiences of giving and receiving 'gifts' when visiting different cultures.

The teaching and learning between the collaborating institutions was delivered using a blended learning approach utilising a combination of online learning and face-to-face teaching delivery.The online learning was delivered via Web 2.0 technologies and the face-to-face delivery was conducted through what can be referred to as studio-based learning environment (Bohemia &Ghassan, 2012, in print).

In this project, students were asked to write a brief which would lead to the production of the gift they would be designing. The lecturers emphasised to students that they would be

unable to complete the task alone - they would need specific cultural information from their collaborators in order to write a brief that would take into account cultural differences or similarities and specific cultural contexts / mores / rituals / celebrations (Bohemia &Ghassan, 2011a).

Authenticity and Learning

The rationale for studying teaching and assessment practices which are made 'authentic' and 'meaningful' in some way to students, either individually or collectively, is supported by both research in relation to formative assessment and the improvement of performance (Black &Wiliams, 1998b) and also research which looks at the impact of socio-cultural influences on learner motivation and participation. Bloomer (1997), for example, argues that dispositions towards learning and achievement are 'socially and culturally grounded' and profoundly affected by personal identities. It is important, therefore, that teaching and learning approaches take social differentiation into account, as well as individual attributes and attitudes to learning.

> *'Motivation and approaches to learning cannot, therefore, be isolated from the unstable yet important contexts of learners own interests'.* (Ecclestone, 2001)

The concept of authentic learning became popular in learning theories such as situated learning and cognitive apprenticeship (Seely Brown, Collins, & Duguid, 1989)that focus on learning in meaningful contexts (i.e. work or culture). Authentic assessment was seen as increasingly important in competence-based assessment to measure whether the student was capable of functioning in the world of work. There was a perceived gap between what is taught and assessed in Higher Education and the skills required for work (Biemansa, Nieuwenhuisa, Poella, Muldera, & Wesselinka, 2004).

Guiller, Durndell, and Ross (2008) completed a study of students' perceptions of authentic learning activities in relation to the amount of previous experience they had. This previous experience included professional experience and experience of studying. Guiller, et al.(2008)argued that the influence of authentic assessment on student learning was influenced by two major factors – the level of relevance students felt the task had in relation to professional life and the amount of study experience the student had acquired. Guiller, et al.(2008) argues that authenticity is multi-dimensional and is not an objective construct. Therefore students' perceptions of the authentic activity will differ, not all students will see the assessment in the same way and this will, in turn, influence the assessment. Guiller, et al.(2008) states that useful areas for future research might include:

> *'Contexts where learning and working 'are not so tightly integrated' or where the future work field is much broader and therefore less clear.'* (Guiller et al., 2008, p. 184)

Guiller, et al.(2008)argues that if assessment is viewed as authentic by students it would be an important factor in 'bridging the gap' between learning and working.

Authenticity and Information Technology

The internet and the growth of technology and simulation technologies have resulted in an interest and expansion of teaching activities linked to authentic learning. Authentic learning environments can be developed in both digital and real life settings (Lombardi, 2007). Authenticity has been viewed as a student-centred form of learning, where students 'solve ambiguous problems with real-world significance'(Lombardi, 2007; Maina, 2004; Rule, 2006).

These ambiguous problems can have a range of possible solutions (Herrington, Oliver, & Reeves, 2002)and can be viewed as close comparisons to emulating the work of real-life experts. Digital simulations have grown in technology education as they are viewed as appropriate and 'safe' arenas in which to practice the development of skills. Squire and Jenkins (2003) and Oblinger and Hawkins (2006) suggest that on-line simulations are not enough by themselves, but must be incorporated into a course. They suggest that students will become motivated to look for information to support on-line learning and simulations from books, papers and other materials to support their performance in a virtual environment.

Messick(1994)discusses authentic learning tasks in relation to simulations and argues that there are two types of simulation: construct-centred and task-centred authenticity:

> *'In the task centred approach to authentic assessment, credibility depends on the simulation of as much real-world complexity as can be provided... The construct centred approach (focuses) on constructs of knowledge and skill and the conditions of their realistic engagement in task performance. Aspects of the test situation can be controlled or standardised. Such simulated tasks are authentic in that they replicate the challenges and standards of real-world performances and are representative of the ways in which knowledge and skills are used in real-world contexts, even though they do not simulate all of the complexity of real world functioning. No situation can be exactly like the real world. Teachers would have to distinguish which aspects of knowledge they wanted to assess and incorporate this into the assessment activity.'* (Messick, 1994, p. 58)

Herrington, et al. (2002) discuss the use of authentic learning activities in on-line learning environments, and state that there are many benefits for learners. Their research is based upon constructivist philosophy and they discuss research in response to curriculum advances in technology. They argue that their methods have been successfully used in a range of disciplinaryareas. They discuss patterns of engagement, and state that engagement involves a 'suspension of belief' on the part of the students. Herrington, et al.(2002) propose ten characteristics of authentic learning activities. These include activities based in real situations and activities which included development of conceptual skills such as critical thinking or problem solving:

1. Authentic activities have real-world relevance.
2. Authentic activities are ill-defined, requiring students to define the tasks and sub-tasks needed to complete the activity.
3. Authentic activities comprise complex tasks to be investigated by students over a sustained period of time.
4. Authentic activities provide the opportunity for students to examine the task from different perspectives, using a variety of resources.
5. Authentic activities provide the opportunity to collaborate.
6. Authentic activities provide the opportunity to reflect.
7. Authentic activities can be integrated and applied across different subject areas and led beyond domain-specific outcomes.
8. Authentic activities are seamlessly integrated with assessment.
9. Authentic activities create polished products valuable in their own right rather than as preparation for something else.
10. Authentic activities allow competing solutions and diversity of outcome.

Herrington, et al. (2002)have used these ten principles to identify cases within their own institution to research. They state that identification of courses which have these characteristics as their core design is difficult, and research is ongoing. One strong emerging theme in their research is that the view of authenticity emerges from tutors' 'own imaginations' and views of learning.

The Gift project can be viewed as an International, *authentic learning* collaboration. The project shares many of the features of authentic learning which have been outline above, and, in addition, breaks new ground through its innovative approach to the development of learning and teaching practices.

Evaluation of Student Surveys

A comprehensive analysis was undertaken of the Gift project. The international project consisted of 80 student groups, made up of 233 students, who were surveyed at mid-project and final project stages. In addition all students were asked to complete a self-evaluation in relation to their experiences of the brief given for the project and their experiences of the design concept. The individual surveys' can be accessed at www.globalstudio.com

The following sections provide an account of the student's experiences during and after, the project.

The Sections have been grouped into themes which have been developed from the key questions in the students' survey. These themes relate to the teaching and learning experiences of the students and include data from the four student surveys undertaken. The themes are:

1. Understanding the design phases – developing core design skills
2. Using communication technologies to develop communication skills
3. Developing collaboration skills - group work across distance - understanding the challenges of working in distributed design teams
4. Peer observation, review and feedback
5. Problem solving and critical analysis
6. Developing Intercultural communication skills
7. Time management and project development skills
8. The extent to which authentic, meaningful learning activities, developed through the Global Studio, have prepared students for design collaborations across distance

Methodology

Students were asked to undertake a self-evaluation of their experiences of the project. The students were asked to complete a survey and rate their experiences on a scale between 1 and 5. Scale: 5 = Very much, 4 = Somewhat, 3 = Neutral, 2 = Not very, 1 = Not at all

	Australia	England	Taiwan	Japan	Canada	China	Korea	Total
Number of groups	8	21	17	8	8	10	8	80
Number of students	14	57	62	21	16	30	33	233
Returned number of surveys, mid-project	12 / 86%	44 / 77%	44 / 71%	0 / 0%	11 / 75%	12 / 40%	19 / 67%	142 / 61%
Returned number of surveys, exit	9 / 65%	54 / 96%	46 / 74%	20 / 95%	9 / 56%	12 / 40%	0 / 0%	150 / 64%

Theme 1 - Understanding the design phases – developing core design skills

The overwhelming response from students in relation to developing the design brief involved was breaking the task down into carefully structured sections, with each section having to be carefully considered. Students related that it was important to be as clear as possible. The most successful briefs were made up of simple brief based on universal ideas. Groups reported the importance of careful, relevant research and information to aid the development of the research brief. Groups reported finding the brief clear to follow and commented:

"The brief is easy to understand but still leaves a lot of room for creativity"

Some groups commented that they felt they hadn't developed the brief enough, or included enough information and clarity to allow other design teams to design from it. When this was the case, students commented that the use of pictures and more detail would have been useful.

Students stressed the importance of understanding cultural norms of particular countries in order to interpret certain aspects of the brief properly:

"You need to research the country's culture in depth as this has a great effect on your concept and thought process"

In order to develop a clear brief was clear which the groups felt comfortable in handing to another design team, students regularly mentioned that the design they created had to be meaningful to the group, based on the research they had undertaken. Students reported that this meaning and relevance was fundamental to the design process, and the quality of the research undertaken had a direct bearing on the strength of the final design concept.

Some students reported very enthusiastically about the project, mentioning some potential issues when working collaboratively:

"I think I may have taken control of the project. Maybe it could have had more group input"

Students reported that a lot of their research came from personal projects on food and cultures, they used information given to them by their partner university relating to culture and value systems:

"We used the information they give us in relation to religion and ceremony. Our research was extensive and we feel that our concepts conveyed this in depth"

and:

"We looked for many useful materials and used them effectively"

Students reported that taking time to carefully consider how both cultures were involved in the concept created a meaningful experience; students reported developing friendships which helped them to express themselves in a creative way. Students reported checking and verifying their research on an on-going basis:

"During the design process, we kept going back to the research to make sure everything was appropriate"

Students commented on the amount of detail they included in their projects and the realisation that this attention to detail formed the basis of a successful design brief:

"I now understand the amount of work and detail needed to write a successful brief"

and:

"We found our university had ten departments. We used this research to design a concept which had ten parts"

Groups reported that having "such an open brief" made agreeing on a topic "quite tricky". Students commented that this could be a 'fun' process, but at the same time initial

indecision and a lack of structure often made things harder in the early development stages of defining the brief.

> *"This was quite hard because you have to be selective about what is included and sometimes I was unsure of what was crucial information and what was less important"*

Groups stated that deciding on the concept was 'the hardest part'; once this had been decided on students reported that the development and research stages developed more smoothly. The majority of groups divided the brief into several parts; with each member being allocated a particular area to work on, with ideas being gathered together after a period of time. Students reported improving their visual representations of the brief and gaining understanding of core brief writing aspects:

> *"We all sat together and bounced ideas off one another. This session worked very well and I'm pleased with the outcome"*

Theme 2 – Using communication technologies to develop communication skills

All groups reported trying to simplify ideas and represent ideas much more understandably in visual form to overcome language problems. Students used a range of communication technologies to develop communications between groups. Most of the communication was on Skype, Facebook, and MSN. Groups also used their University email account. WordPress was very useful to create a sense of identity and a point of meeting. Translation at times could be misunderstood; students reported giving careful consideration to communication to ensure that your counterpart group understood each other's views and ideas.

> *"Actually it's hard to communicate with non English country. However with web pages, we can talk about each ideas more easy"*

and:

> *"I've learnt Wordpress and it's interesting because personally I would like to make a personal blog by Wordpress. We found this most useful to communicate with our collaborators, and made the language barrier easier to cross".*

Students reported using these technologies improved communication, facilitating participation and collaboration:

> *"It has helped me understand their cultural experiences and helped my time management b/c of the time change"*

and:

> *"I have improved my appreciation for blogging"*

Groups discussed the usefulness of alternative ways to communicate ideas other than through text, this was seen as a way to develop ideas, when 'deeper' technical discussions could not take place because of the language barrier.

Students reported developing their evaluation skills through the act of posting comments, views and comments on the on-line blog:

> *"By trying to evaluate every word or image I post I can control how things are perceived, also to central the direction of our designs"*

and:

> *"It's a chance for us and them to think and paraphrase before posting up, a useful way to do feedback"*

Some students expressed concern over the lack of communication from some groups:

> *"It would have been much better if they would have got on webcam but 'cause it's all written like an e-mail I don't think I've benefitted communication wise from the online component"*

and:

> *"It's the best way to communicate via overseas; however I prefer a face to face scenario due to the instant feedback and response that can be gained"*

Students reported being 'on-line' more often, to check for new posts, groups reported that this process helped them both their communication and Information technology skills:

> *"It made me check the website more often checking for updates"*

It gives an obvious way of communication although it would be better if the messaging was instant.

Keeping in contact with group members and easily sharing concepts and ideas.

Theme 3 – Developing collaboration skills - group work across distance - understanding the challenges of working in distributed design teams

Groups discussed the issues involved in developing effective collaboration across distance, students reported using drawings and notes to discuss and develop ideas. These drawings would often be completed 'live' during a Skype session , to illustrate ideas:

> *"We sketched during our meetings with the other group to explain the concepts"*

Skype was highlighted as a very useful way of communicating and an aid to help clear up misunderstandings or clear up any issues relating to the design concept.

> *"We had great communication. Skype cleared up many issues"*

and:

> *"I communicated well with my team, so they knew exactly what was going on, though notes, annotations and sketches. Then team helped me communicate these ideas to our collaborators"*

Students commented that being in 'constant contact' with their counterpart group made the project run very smoothly. Skype and Wordpress particularly were deemed very useful for relaying visual messages with minimal text. Groups reported using Storyboarding and Sketch sheets to communicate ideas, with a few key words. This technique minimised the potential for mis-understandings due to language:

> *"We tried to minimise annotations and purely express visually if we could. Our collaborators' were very good at this"*

and:

> *"We had weekly meetings and communicated often over the WordPress site and Skype"*

Students commented that the experience of working with students from another country and culture had been a valuable experience for them:

> *'Every country has a different way and culture of designs. Knowing how the Korean's think about their designs and the whole story towards the final design'*

and:

> *'Learning the ways they worked in comparison to us was very interesting. Different ways to tackle the same problem. Proved that communication is vital and without it the project would just come to a stop'*

In relation to culture and collaboration:

> *'Because I learnt about them, their lifestyle, and culture and what design means to them at their university. It opened my eyes to different cultures as well as the difficulties of collaborating with designs throughout the world.'*

Theme 4 – Peer observation, review and feedback

Groups commented that they had learnt new methods of presenting thoughts, through mind maps and Photoshop. Students related sense of pride that they were able to give feedback which was useful to other groups in the design of their project:

> *'I am proud to give some ideas and directions of working to make the team go ahead'*

Peer review was considered an integral part of the design process, students commenting on the usefulness of giving and receiving feedback on their thoughts and ideas:

> *'We communicated well with the other team. We hit targets and were clear and precise when giving feedback'*

The feedback process facilitated students decision making and helped them evaluate their progress:

> *'To improve our group we needed to add more information to decision making and take a more focused role when coming up with ideas'*

Feedback was viewed as vital to designing an appropriate concept, students commented that the range of communication technologies made it easier to ask questions and gain feedback. Students commented that the design process was not always an easy one:

> *'Sometimes we have worked well together but sometimes we have struggled'*

Whilst some groups struggled with communication:

> *'Lack of communication. More than a week would go by without any feedback'*

and:

> *'It's a little complicated to understand what we have to do between clients and designers. But I suppose that it can help you to reflect on two different ways of design'*

Groups commented that the peer review process had helped them appreciate and understand different approaches and perspectives in relation to the design process:

"Different points of view, different thinking. Sometimes I'll lose the way. But I think I realise during the project. This is a very good way of learning from each other"

Theme 5 - Problem solving and critical analysis

Students reported that communicating through language barriers, communicating ideas and collaborating with international partners helped them develop problem solving and critical analysis skills. The development of initial ideas, working as a group, setting each other tasks were all mentioned as activities which helped individuals and groups problem solve:

'We worked through a number of ideas and worked well in developing them'

and:

'Ideas generation, getting 'stuck in' to develop ideas and concepts'

'Worked well on concept and scenario generation I developed a better understanding of other countries culture and values'

In relation to keeping in contact with other groups, students mentioned that the time difference made communication difficult, when messages were posted online it often took a long time for the other groups to reply. Groups commented that this factor slowed proceedings down, but also provided opportunities to problem solve – students had to think and plan ahead in relation to different time zones and prioritise what work needed to be discussed.

"Sometimes the time difference was frustrating, we missed our two first meetings because the time difference was not calculated correctly"

and:

'Working as a group is always a challenge. Working with another group halfway around the world is even more challenging.'

Some groups reported confusion and anxiety at the beginning of the task, the students who negotiated different ways to communicate across the time zone differences and developed effective communication pathways appeared to be more successful at managing the design process. Students commented on the need to problem solve in relation to developing effective communication:

'To communicate with a foreign country is a big challenge, because we have different culture, you really need to be careful and to observe the emotion of the issues we discuss'

The groups had to think carefully about ways to communicate their design concepts to each other, taking into account language differences. This involved students having to problem solve in relation to finding ways to communicate ideas without using a lot of text and unfamiliar technical words, to reduce potential errors in communication:

'I feel I can improve my concept through a series of story boards that are very minimal with language so the guys from Chiba can understand'

and:

'We used drawings to best communicate concepts. We needed to be clear - pictures are more advised'

Theme 6 – Developing Intercultural communication skills

Students observed that it was a challenge to run a cross continental project. They talked about the difficulties involved in setting up a regular timetable. Groups discussed ideas before posting them on the website. Groups stressed the importance of being very clear on the website, through using appropriate headings and good quality photos/images.

Regular meetings on Skype were viewed as very important to the development of intercultural communication skills; this was a very popular medium for the students to communicate through. Groups related that they tried to keep their briefs clear through imagery and bullet points so they could be easily interpreted across cultural groups. Teamwork was mentioned as being very important to the development of intercultural communication skills

> *'We needed to explain ourselves better. This would have been easier if we had been more organised'*

Students were creative in getting their ideas across, posting videos online so counterpart groups could view their institution. There was some frustration in relation to the amount and timing of posts from some groups:

> *'Our Brief was well laid out, we organised meetings and contacted the group successfully but wish the other group would post more often'*

and:

> *'Communication with our counterparts has been difficult; we ask them questions on the blog, but they did not respond, when they used Skype the group responded and they were able to exchange ideas'*

Groups stated that they had discussions into aspects of different cultures and how their designs could incorporate different cultures:

> *'For each concept I had to explore the culture, the trends because we don't make design with eyes closed'*

and:

> *'I did not know anything of Taiwan, not even its location. How bad is that? Very! They opened me up to how different people throughout the world perceive different gestures. It was interesting to see the difference in cultures and try to adopt the ideas to fit both, I came to realise that views and traditions vary widely'*

Theme 7 – Time management and project development skills

Some groups stated that they felt some amount of confusion at the beginning of the project. Students reported feeing unsure about what was required of them, and anxious that the brief was 'too open'. Students stated that the open brief felt unclear and 'scary' and that they had difficulties in understanding the theme at the beginning of the project and difficulty in deciding who was designer and who was client.

All groups commented upon the importance of making a realistic schedule of work to be completed:

> *'If our team had made a schedule would have been more organised'*

Groups also commented that they would have preferred a timetable to be 'imposed' on them, instead of having to organise their own timetable. The groups who organised their schedule soon into the project reported satisfaction at having completed the task on time and within the given objectives:

'We finished the project in a logical order, with good scheduling and sharing of tasks'

Communication was deemed to be key to the completion of tasks within schedule:

'As a group we met regularly and communicated well which aided the completion of the task'

and:

'We followed a logical order from design concept to final product'

Theme 8 – Using authentic, meaningful learning activities for design collaborations across distance

Students work was developed through sketching and mind maps. Visual aids were used to represent ideas. Story Boards and CAD presentations were also used. Groups reported using many sketch sheets to demonstrate the ways in which their research shaped the design process:

'Our three initial concepts were very visual and out team easily understood our ideas'

Students used video and comic story boards to develop ideas. Mind maps were popular and used extensively, although some students commented that perhaps they used them a bit too much:

'We made a mind map outlining the things we thought were important in gift giving, which we used to determine what we would do with the exchange of gifts'

and:

'Could have sketched more, spent too much time mind mapping'

Sketching was used a great deal and students commented that this was central to the process:

'We sketched, mocked up small foam models to understand how we would interact with the Gift. We used a lot of pages of sketches to find the final design'

Sketching was deemed a very useful way of exploring different cultures and values:

'Sketching was the easiest way for me to explore all areas of the culture and design idea'

And for working out technical details:

'Sketching became a big part when we were working out the engineering/functional side'

The task provided a 'vehicle' for students to develop a gift which would be viewed by the recipient as meaningful, innovative and considerate. Groups stated that it was very useful to work with people that you have no physical access to – students commented that it was helpful in streamlining ideas and simplifying visuals to express ideas.

The project gave students opportunities to learn across distance. Students commented that the skills developed would be very useful in future projects:

'Learning about others and cultures, explaining designs and using different influences have improved my skills'

The very real issues students had to contend with, in relation to time zones, cultural differences and language barriers provided an authentic learning experience which would be impossible to replicate in a classroom based setting:

'I appreciate time change and culture barriers more. I will carry this experience and use mistakes to improve'

and:

"'I have definitely learnt how to tackle a group project more efficiently, understanding that defining times to meet is very important. Yes, this project has taught me a lot about working in distributed teams, trying to overcome language barriers, and I do feel more confident for the future'

Discussion

The Gift project has developed a range of innovative formative strategies which have provided both students and tutors with opportunities to become involved in peer assessment and review, peer feedback and reflection on learning outcomes. This re-conceptualisation of the assessment process has provided valuable insights into the development of learning skills such as problem solving, critical analysis, and the development of creativity and learner autonomy. Assessment has been acknowledged to have a major effect on what, and how, people learn. Debates into the role of assessment, and what should and what should not be assessed have previously focused predominantly on 'generic performances', 'critical outcomes', 'skills' and 'employability' (Barnett & Coate, 2005). Research in higher education has acknowledged that a wider conception of learning and assessment needs to take place, and much current research, theorised from a constructivist paradigm, has focused on exploring the situatedness and complex nature and relationship of assessment and learning. Improvement in assessment was identified by Subject Review (Quality Assurance Agency for Higher Education, 2003, p. 27), as:

'The single intervention by universities and colleges that would improve the quality of the student experience'.

Formative assessment has been identified as being an effective means through which to develop students' understandings and improve the learning experience. Formative assessment can be described as a learning and teaching approach which responds to student learning on an on-going basis – it provides feedback which is timely and can be acted upon to improve learning and performance. The Organisation for Economic Cooperation and Development (OECD) has advocated formative assessment as an effective learning strategy:

'Teachers using formative assessment approaches guide students toward development of their own "learning to learn" skills – skills that are increasingly necessary as knowledge is quickly outdated in the information society. (OECD, 2005, p. 22)

A prominent theorist in student development, Baxter Magolda(2001), discusses the concept of 'self-authorship'. The term is used to describe students' feeling that they have control over the content and direction of their work. Baxter Magolda(2001) outlines the conditions which can help promote this for learners – primarily through educational institutions modelling self-authorship, but also through embedding assessment and

teaching practices which validate learners' capacity to know, situate learning in learners' experience and mutually construct meaning. These strategies can be related to the authentic learning activities developed during the Gift Project, through the development of relevant and meaningful learning activities.

Conclusion

Higher Education is experiencing an increasingly diverse student population. Students bring a range of skills and experiences to their courses; they have different backgrounds and different needs:

> *'With a diverse student body, no fixed start or end point can be assumed – consequently, no selection of items can be appropriate to meet the needs of all. The challenges of diversity demand a more fluid conception of teaching.'* (Northedge, 2003, p. 47)

This fluidity requires an approach to teaching that encompasses the social aspects of learning. Authentic approaches to teaching and learning can assist in offering a perspective on learning which views learning as 'enabling participation in knowing' (Wenger, 1998). The highly influential work of Lave and Wenger (1991) provides a perspective on learning which offers a model of learning based on equity in that it invites partnership and the sharing of knowledge and ideas, rather than a transmission or acquisition view of knowledge and learning. This perspective views knowledge as constructed within a community of discourse, where participants are able to access the curriculum at different levels according to their experience. This curriculum is complex, multi-layered and provides opportunities for learners to become a participant at different levels. These levels of complexity are multi-faceted, very often with high levels of authenticity. The Gift project was designed with this complexity in mind; it offered students opportunities to engage with the curriculum at a range of different levels.

The authentic practices developed in The Gift project constituted approaches which acknowledged that students' interests and experience are intrinsically bound up with motivation and engagement and, as such, have a major influence on the ways in which learning is constituted and developed.

Black and Wiliam (2000) state that:

> *'Beliefs about the goals of learning, about one's capacity to respond, about the risks involved in responding in various ways and about what learning should be like (all) affect the motivation to take action, the ability to choose action and commitment to it.'*

Some students reported initial difficulty in engaging with the project and stated that they felt 'confused' and 'dis-orientated'. Taplin(2000) states that students can often have difficulty in changing to self-directed learning when they have had previous experiences of dependent learning habits, and can become unhappy when support is withdrawn. Taplin(2000)argues that more independence in learning may result in students' feeling anxious or uncertain with regard to the new experience. This is something to consider for future development of The Gift project, the literature in relation to autonomy has revealed that the student response to learning activities which are designed to promote learner autonomy can be varied; this variation may be dependent on a number of factors, including the ways in which the learning activity is constructed by the tutor and presented to students.

The Gift project presented students with many new ideas and concepts to engage with. Mann (2001) states that students may find it easier not to engage, as being presented with new ideas may present a risk:

'Most students entering the world of the academy are in an equivalent position to those crossing the borders of a new country – they have to deal with the bureaucracy of checkpoints, or matriculation, they may have limited knowledge of the local language and customs, and are alone.' (Mann, 2001, p. 11)

Mann (2001)argues that the organised nature of higher education suppresses creativity, which is the element which is actually needed to engage in learning. Mann (2001)also relates that the current emphasis in assessment is about outcome rather than process; systems of exams and assessment separate students from the possibility of being autonomous in assessment. Mann (2001) argues that if the institution and the lecturer decide on the content/pace of learning, the students do not own the learning process and there will be a sense of alienation and unequal distribution of power in the relationship. In this instance, the authentic learning activities, developed within The Gift project, may be able to provide the meaning and relevance which Mann describes as being essential for learner engagement.

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