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Reciprocal Peer Learning in Design

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Reciprocal Peer Learning

Abstract

This paper examines reciprocal peer learning as a way to involve design students in a cooperative process of critical enquiry and reflection. It looks at various interpretations of peer learning and describes my own experience of incorporating peer learning into my teaching. It identifies some of the advantages and reflects on some of the challenges presented by peer learning approaches.

Introduction

> *'Peer learning prompts the acquisition of knowledge about ways*
> *of working with others in groups and one to one, and the implications*
> *of one's own learning choices on others. Seeing the different approaches*
> *that others use can broaden the base of understanding about variation*
> *in learning'*
> *(Bowden & Marton, 1998, cited in Boud, Cohen, Sampson, 2001, p.9)*

I became interested in the area of peer learning because I wanted to develop a more interactive and collaborative approach to my teaching and encourage students to contribute more to their own learning. Creating a comprehensive and creative design solution to a complex design problem is very difficult to accomplish in isolation. We need others to check our understanding, see alternative approaches, identify new sources of inspiration, act as a sounding board for ideas and provide support. In professional practice, designers rely on constant feedback from peers to optimise concepts and manage the production process. Peer learning can help designers to develop good 'interpersonal communication skills,

to be prepared to value innovation and be analytically critical of personal ideas in the light of experienced collective opinion' (Wilson, cited in Boud, Cohen, Sampson, 2001, p.102)

While being able to give and receive constructive feedback is an important ability in most fields, it is critical in the professional practice of design. However, traditional teaching and learning strategies in art and design are epitomised by the master/apprentice approach. This involves constant interaction between teacher and learner in a one on one dialogue of show and tell (Schon,1987). Often students only look to their lecturer for feedback and fail to recognise how valuable peer feedback could be.

What is peer learning?
Boud states that 'Peer learning is not a single, undifferentiated educational strategy. It encompasses broad sweep of activities' (Boud, Cohen, Sampson, 2001, p.3) Researchers from the University of Ulster identified ten different models of Peer Learning. These ranged from the traditional proctor model, in which senior students tutor juniors, to learning cells in which students in the same year form partnerships to assist each other with course content (Griffiths, Houston & Lazenbatt, 1995, cited in Anderson & Boud, 1996). Other models involve discussion seminars, private study groups, parrainage or counseling, peer assessment schemes, collaborative projects or laboratory work, workplace mentoring and community activities (Anderson & Boud, 1996)

Co-operative learning and collaborative learning are other terms that are used in relation to peer learning. While they seem to be interchangeable in a lot of ways, they have emerged from different educational perspectives and emphasis different outcomes. Co-operative learning stems from a context of cognitive, social and developmental psychology. It focuses on the group interaction, individual skill development, social learning and management of the educational environment. This takes place within an established body of knowledge and authority for

knowledge is vested in the teacher (Johnson, Johnson & Smith, 1991 cited in Sampson, Boud, Cohen & Gaynor, 1999)

Collaborative learning however places emphases on participation where learning is the key concept, not education or teaching. The lecturer is a facilitator, negotiating the learning and evaluation and sharing control. Critical thinking, problem solving, personal transformation and the social construction of knowledge are all features of collaborative knowledge. (Bruffee, 1995 cited in Sampson, Boud, Cohen & Gaynor, 1999)

Reciprocal Peer learning can be defined as a sub-set of collaborative learning (Boud, Cohen & Sampson, 2001) It is about students learning with and from each other in both formal and informal ways. It involves notions of interdependence and mutual benefit where students take responsibility for each other's learning and with its primary focus being on students acting interdependently. It acknowledges the contribution which current knowledge and skills of students can make to the learning of peers and places a strong emphasis on critical thinking, problem solving and the construction of knowledge. The lecturer acts more as a facilitator, playing a less direct but crucial role in the students learning. Unlike peer tutoring and peer mentoring, reciprocal peer learning differs in that the power and status of the students is similar and the emphasis is on learning together.

While the term peer learning remains abstract, key features of all peer learning strategies are that they enable peers to work together, learn from each others knowledge and experiences; learn through listening to each other's opinions and giving and receiving feedback from each other. Boud describes peer learning as 'learning that is mutually beneficial and involves a sharing of knowledge, ideas and experiences between the participants' and sees it as a way of moving from 'independent to interdependent or mutual learning' (Boud, Cohen, Sampson, 2001, p. 3)

Turning a Design Critique into a Learning Exchange Session

During this module I organised a design critique based around the concept of reciprocal peer learning. The format for this class was an end of project critique with third year design students. Normally a review like this is carried out at the end of a project but I thought conducting it a week before the final deadline could be more beneficial for two reasons. Firstly, feedback could be given without the formality of assessment or the stress factor of a final deadline. Secondly it would give the students an opportunity to develop a more measured final design solution which was mindful of feedback from their peers and tutors.

The aim of the session was to address the following issues:

• Inequality

Students want and need feedback on their work but usually only look to their tutors for this. Often peer groups are closer to the design project, therefore their feedback is invaluable. I wanted to discourage a situation where students only listen to my critique of their work. This creates inequality between student and lecturer and results in an environment that can be difficult for students to contribute and learn from class interaction. I believe that only by reducing the students' reliance on my opinion will the educational potential of a design critique be realised.

• Create a more collaborative learning environment

I wanted to explore ways of fostering a sense of collaboration among the students and

create a positive learning climate, which helps students to value each others input.

• Mirror professional practice

Peer learning mirrors the kind of informal assessment that takes place constantly in the work place. Self-assessment and peer judgment are more common and can often have a more powerful influence on professional work than formal appraisals (Boud, 2001).

Boud (2000) explains that learning how to assess one's own learning and being able to apply this to a variety of situations is a key element of sustainable assessment needed for lifelong learning.

The session structure

I have always felt the term 'Critique' has strong judgmental overtones so I opted for the term 'Learning Exchange Session' instead. I introduced the session by explaining the importance of learning how to learn with and from peers and how this skill contributes to their development as lifelong learners and professional design practitioners. I wanted to introduce this session in a way that would convince students that this was both an essential and beneficial aspect of professional design practice. I prepared a detailed explanation of the peer review approach, how this session differed from the traditional tutor centred critiques and negotiated some ground rules that everyone needed to adhere to.

The session involved each student giving a short presentation which was reviewed by the tutor group and two of their peers. While they were only asked to give formal feedback on the work of two students, I stressed the importance of taking notes on all the presentations so they could contribute to the class discussion. The session was structured as follows:

Stage 1. Exhibit work.

Hang presentation boards around the studio and hand up a digital file for the presentation. Detailed guidelines were given a week before regarding level of finish and file formats that were required.

Stage 2. Individual Peer Review.

Each student was asked to informally view all the work on display and formally review two peer projects by using the peer review worksheets which contained a set criteria. The reviewee also had the opportunity to request specific feedback on any aspect of their design.

Stage 3. Groups peer review.

Each student was asked to give a brief presentation to explain their concepts and then answer any questions the class might have. Students were put into groups to discuss the work presented and decide on appropriate feedback.

Stage 4. Evaluation

Students were then asked to fill in a Project Evaluation Sheet to encourage them to think about what they had learned as well as give me feedback on this new approach.

Step 5. Hand up

Each student handed up two Peer Review worksheets and a Project Evaluation sheet.

I had given them a simple format for their presentation which most of them stuck to. The other lecturer and I sat with the class group to the side which I think encouraged the presenters to address the whole class and not just us. I was very happy with the level of communication among the students. I was also happy with the level of respect they showed each other. They listened quietly and the feedback was developmental and not at all antagonistic. Possibly the brief discussion at the start about ground rules helped encourage this.

Increasing the student activity in the critique also seemed to work well in terms of engaging the students. With the help of questions to guide their analysis in the form of a Peer Review Worksheet, their feedback was well considered and constructive. I seldom had to point out any additional design concerns and found myself only ever adding to or developing on points they already made themselves. Personally I enjoyed facilitating this critique. Not being the sole voice in the room gave me more time to analyse the students work and offer more considered feedback on their design solutions.

On the whole, students feedback was positive. They appreciated the opportunity to discuss their ideas and felt it helped broadened their understanding. They commented on the value of learning about how different people approach the design problem. A common student criticism however was the presence of freeloaders, who contributed little in terms of feedback.

Advantages of Peer learning

The great advantage of peer learning is that it offers the opportunity for students to teach and learn from each other, providing a learning experience that is qualitatively different from the usual teacher-student interactions and which offers mutual benefits (Saunders, 1992)

Peer Learning also has great potential to foster a deep approach to leaning. Biggs identified four features associated with encouraging a deep approach to learning (Jackson, 1989) all of which I feel can be addressed very successfully with Peer Learning.

• Motivational context

Students are more likely to take a deep approach to learning when motivation to learn is coming from themselves and their own needs and interests.

• Learner activity

Peer learning is a learning experience in which students take an active rather than passive role. This is likely to be more meaningful for the students and lead to deeper learning taking place.

• Interaction with others.

Possibly the greatest advantage of Peer learning is the ability to foster a culture of collaboration. Peer centred critiques provides students with an opportunity to give and receive feedback, negotiate and structure meaning.

• Well structured knowledge base

In line with the constructivist theory of education, new learning can only be approached deeply if the student can relate it to their existing knowledge and experience.

Challenges presented by peer learning

Boud identifies the main problems that can arise from peer learning as issues of difference and interpersonal dynamics. When there is a high level of diversity in a group, students may not believe that other students can contribute to their learning. Also peer learning needs to take account of the dynamics present in any

group situation. For example difference in knowledge and experience base, potential power struggles, potential for dominant behaviour and expectations of traditional teacher student roles (Anderson & Boud, 1996)

In a design context students can have very different levels of design understanding and visual literacy. Feedback can be erratic when students haven't developed the necessary experience to discriminate and assess the relative merit of a design process, approach or product. It has to be acknowledged that sometimes students may not be in the best position to judge what they and their peers need to learn. Providing students with detailed design analysis guidelines with which to evaluate each others work can help but there is still the danger that students can give advice and development suggestions that may be based on a limited understanding of the design process or the fundamental principles of effective typographic design, composition or information architecture.

Conclusion

Research has demonstrated the value of Reciprocal peer learning and feedback from students acknowledges the benefits of learning from and with each other. It will always be demanding for both the student and lecturer but I am optimistic about the possibilities for peer learning as a learning approach in the area of design.

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