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# Teachers' and Students Conceptions of the Professional World

Anna Reid, Macquarie University

Allan Davies, Centre for Learning and Teaching in Art and Design at The London Institute, Royal College of Art and Wimbledon School of Art

## Abstract

In the original 'Improving Student Learning' project led by Prof Graham Gibbs in 1991, one of the case studies focused on approaches to learning on a BA(Hons) Graphic Information Design course. The case study, led by Allan Davies, had the modest intention of trying to determine whether a particular curriculum innovation encouraged a deep approach to learning. Our only significant tool then was Bigg's SOLO taxonomy. Eleven years later and the innovators have moved on, the course has disappeared and the research context and methodologies have developed. During this period, research has suggested that both teachers and students describe their understanding of teaching and learning according to their perception of the teaching/ learning environment (Ramsden, 1992; Prosser & Trigwell, 1999). Studies have identified variation in the way that teachers experience teaching (Samuelowicz & Bain, 1992; Prosser, Trigwell & Taylor, 1994 for example) and variation in the way teachers experience student learning (Bruce & Gerber, 1995).

More recently, Reid (1997) has widened the context of research by examining the relation between the experience of work and teaching/learning within the music discipline. In further research (Reid 1999), relations were found within the music discipline where teachers' and students' experience of one of three defined dimensions was strongly related to the ways in which they understood teaching and learning music. The musicians (and their students) described their experience of the professional world in three hierarchically related ways. This constitution has become known as the 'Music' Entity. In 1999, following a fortuitous meeting at the ISL conference in York, Davies and Reid conducted a joint enquiry, using a phenomenographic approach, to determine the 'Design' entity (Davies and Reid, 2001). This research focused on discerning the critical differences, or variation, in the way teachers and students experience and understand their subject and its relation to the professional design world. The outcomes of this research has, consequently, begun to impact on student learning through course design and, in particular, assessment. This paper will be a comparative study of the research already carried out by the authors in a number of disciplines in which the same focus and methodology has been used.

## Introduction

Research has suggested that both teachers and students describe their understanding of teaching and learning according to their perception of the teaching/ learning environment (Ramsden, 1992; Prosser & Trigwell, 1999). Many studies have described variation in the ways that students understand various subject areas (Entwistle & Marton, 1994; Crawford *et al*, 1994; Petocz & Reid, 2001). The outcomes of that sort of research are the development of learning and teaching environments that focus on the nature of the subject and aim at facilitating a student's understanding of specific topic areas. Some research has looked at the ways in which teachers experience teaching in a variety of different fields (Bond & LeBrun, 1996, Samuelowicz & Bain, 1992; Prosser, Trigwell & Taylor, 1994 for example) and variation in the way teachers experience student learning (Bruce & Gerber, 1995). Kember's (1997)

meta analysis of these sorts of research studies clearly showed that there were some aspects of commonality between them, that on one side of a continuum the teachers and students were oriented towards a content delivery/acquisition focus and on the other side a learning/ understanding focus. The early work by Reid (1997) explored all of these issues in the context of music performance. However, as part of that study she found that students and teachers were aware of a much broader context than simply that provided by a learning institution. Students and teachers described a perception of their professional work and that that perception had a relation to their conception of learning/teaching and the way they went about their learning/teaching.

Research on work-based learning (Garrick & Rhodes, 2000), where students are workers first, has shown that these students focus on the constraints and opportunities provided by the workplace to orient their learning. Students who are workers see that learning contributes to their effectiveness at work and enhances their job satisfaction. This paper explores the way in which students and teachers perceptions of professional work provide a broader context for situating their conceptions of teaching/learning within an institutional environment.

We have chosen to describe this exploration by focusing on two ‘creative’ fields, music and design as these two professional areas have some obvious similarities. Education in music and design were both shifted in the last century from an orientation where students learned on-the-job in a creative apprenticeship, to learning formalised within an institution. Music and design, which used to be exceedingly practical studies, have become subject to the knowledge revolution and have been institutionalised. However, students intending to become professionals in both areas are often already working in those areas as they study. In essence, students within these fields have a critical understanding of the nature of work in their artistic professions. Finally, the teachers of design and music are often highly regarded practitioners who are intent on propagating their own unique artistry.

## **Research in Music and Design**

Data for our studies were collected using an open ended interview protocol (Bowden, 1996; Dortins, 2002). The initial music study focused on students and teachers experience of teaching and learning music and resulted in three sets of related categories that described students’ conceptions of learning music, students’ conceptions of teaching, and teachers’ conceptions of teaching and learning. The design of the study was unusual as in the context of learning music performance each student has an individual lesson. Each of the teachers in the study suggested specific students to participate and it was therefore possible to analyse specific student/teacher cases (Reid, 2000). The music study provided evidence of an overarching framework described as the ‘Music Entity’. The research in design explored students’ understanding of learning design, their understanding of teaching design, and the teachers’ understanding of teaching/learning. It also directly explored how students and teachers perceived the nature of work as a designer and the ways in which they thought their learning/teaching may be related to that perception. The plan of the music study has been described in detail elsewhere (Reid, 2000), however in this paper we will describe the specific plan of the Design study. The interviews, intended to enable the participants to fully explore their understanding of the design world and how this world is related to their understanding of teaching and learning, conducted with 17 full time and part time staff from University of Technology, Sydney and the London Institute. Twenty four 1<sup>st</sup> to 4<sup>th</sup> year students, representing different design specialities, were interviewed. The Australian and British data was treated as a single data set to determine the qualitatively different ways in which the design world is

understood by the participants. A second level of data analysis involved the separation of the data into student and staff sets to allow conceptions of learning and teaching to emerge. In this way the ‘Design’ Entity and the participants ways of experiencing teaching and learning can be related.

In both of these creative fields teachers and students identified orientations to their profession that were related to the ways they then thought about their learning/teaching. This orientation has recently become known as the ‘Professional Entity’ (Reid and Petocz, 2002b) and is a tripartite hierarchy of perceptions of the nature of professional work. Petocz and Reid (2002) have described how in the two contrasting fields of statistics and music, that “*the broad descriptor is constant, the specific meaning of each level is defined by the discipline*”. Here we describe the nature of the disciplinary variation found in design and music and show how the broad descriptor is still constant.

<b><i>Professional Entity</i></b>	in Music	in Design
<b>Extrinsic Technical</b>	Music making is ‘outside’ the participant. Music is seen as a combination of technical elements related to an instrument or musical notation.	Being able to apply skills appropriately - Design is about doing.
<b>Extrinsic Meaning</b>	Here participants describe a more integrated view of music making where the focus is the production of meaningful musical sound for communication	Being able to meet the needs of society - Design is about interpreting
<b>Intrinsic Meaning</b>	Here participants describes music as a vehicle for expressing personal artistic truths. The focus of this dimension is on the relation between personal understanding of the world of music and the consequent re-interpretation of it through a communicative process.	Being able to communicate - Design is about living

The table above shows that participants in both Design and Music described their perceptions of professional work in *limiting* ways where the art form was considered to consist of the technical components. The Extrinsic Meaning component on both Design and Music participants described the profession as communicative. The artistic mediums of sound and vision are both intended to communicate something to someone. For the musician this means that the instrumentalist considers professional work to be about communication the essence of a Mozart Sonata (for instance) to an audience, the professional designer tries to interpret a ‘brief’ and produce an artefact that fulfils the brief. The most *integrated and inclusive* view of professional work, the Intrinsic Meaning dimension, in both cases is about personal commitment to the art form with the musicians focusing on creating and communicating personal meaning through music, and designers trying to ‘live’ their art form. Reid has previously described the relations between music students’ conceptions of learning music and the Music Entity (1997, 2001) Here we present, in summary form, categories that describe variation in student learning in design and in music.

## **Student Learning in Design**

*Conception 1: Learning Design.* Learning is about developing skills, acquiring knowledge and remembering techniques. The students focus on learning enough things so that they can choose the appropriate skill when they get out to work. Design is understood to be about doing something.

*Conception 2: Learning to be a designer.* Learning is about applying and experimenting with skills and techniques. Students recognise the difference between learning at university and work and understand university learning to be preparatory. As in the previous conception design is understood to be about doing something.

*Conception 3: Learning to be part of the design community.* As in the previous conceptions learning is understood to be the acquisition and appropriate application of skills and knowledge. This conception is different because students focus on the social aspects of design focus their learning on learning as part of a team. Design is understood to be about doing something to solve a problem.

*Conception 4: Learning to innovate and change:* Learning is understood to be discovering about themselves. The focus is on self expression, reflection and integration.

## **Students' conceptions of learning music**

*Conception 1 – Learning an instrument or voice.* In this conception students focus on acquiring the technical skills required of the instrument. They approach their study by rehearsing repetitive physical actions using studies and scales. The outcome of their study is the demonstration of technical skills in an exam situation.

*Conception 2 – Learning an instrument or voice and some elements .* Here, students focus on the acquisition of technical skills and some musical elements. Written music is seen as a series of individual technical problems that must be solved. Once technical solutions have been found musical elements, such as phrasing or dynamics, are added. The outcome of the learning experience is technical proficiency in an exam situation.

*Conception 3 – Learning musical meaning.* Here, students reflect on their teachers' advice on technique and stylistic interpretation of music. Technical proficiency on the instrument is seen as a vehicle to enable correct playing of the music. The outcome of the learning experience is to be able to play the music with correct technique and musical style in a performance situation.

*Conception 4 – Learning to communicate musical meaning.* In this category students see music as a means of communicating with an audience. Written music has an implicit meaning that is expressed by the student using the instrument as a medium. Technique is seen only as a tool through which musical meaning is expressed. The intended outcome of the learning experience is to express the implicit musical meaning of a work to an audience.

*Conception 5 – Learning to express personal meaning.* Here students see learning as reflecting on musical knowledge and assimilating musical ideas into a performance that communicates with the audience and expresses personal meaning. The instrument is seen as a vehicle of self expression which is subject to the greater need to express personal meaning through the music. The intended outcome of the learning experience is to communicate personal meaning and interpretation of the music to an audience through performance.

Finally, we describe here Design Teachers understanding of Design. Readers should be aware that Drew (2001) has described categories of design teachers conceptions of teaching from a different study and that it would be useful to explore the similarities and differences between these two outcome spaces.

### **Teachers on Design**

- A Design is 'end-product oriented' (making)
- B Design is 'trying to satisfy a lot of other people' (problem-solving)
- C Design is 'being able to identify the problems (functional/aesthetic) that the client faces and being able to present a solution (problem-finding)
- D Design is 'design is like orchestration ...designer's role to put all the instruments together'
- E Design is 'being open to possibility, a questioning condition' (analytical)
- F Design is 'other ways of seeing' (cognitive/creative)
- G Design is 'understanding people..... and the impact of your design on others' (communication)

An analysis of the design teachers' interviews suggests that teachers understand learning design in quite different ways than many of the students. Their focus on the client (and what they think the client wants) seems to have a particularly important bearing on the sorts of things they want students to do. This finding lends weight to the view that these ways of understanding learning in design may be related to the Design Entity. For instance, the limiting 'design is end-product oriented' shows an orientation toward the making (technical) components of the Entity (Extrinsic Technical). Similarly categories B and C fit well into the Extrinsic Meaning view of professional work.

The most limiting of the teachers' conceptions relates the teacher's intentions to the act of making a product. The learning of skills is a result of this making. Equally, some teachers focus on teaching skills and techniques and often locate the purpose of this within a vocational context. A slightly more sophisticated conception of design is to do with 'client satisfaction'. The focus is on solving the problems that the client has presented. The designer sees the problems, as do the students, in terms of the relationship between aesthetics and functionality. In this limited conception the intention is simply to satisfy the client's wants.

A qualitatively more sophisticated conception relates to the identification of the client's needs. The purpose of the designer is seen to be about finding the actual problems the client is facing and convincing them of it. Success is seen in terms of re-educating the client. The design 'process' is seen by some as being a crucial aspect of successful design. Several design teachers talk about bringing the whole concept together or seeing the designer's role like that of the conductor of an orchestra ensuring that all the elements of the design process are working in harmony. Some design teachers focus on the

critical and analytical aspects of design and claim that successful design is about questioning and looking for possibilities. Here the focus is on the imagination and some teachers talk about design being to do with different or 'other ways of seeing'.

Some teachers see design beyond the relationship with the client and locate the practice of design within a social context with a concern about understanding people and the impact of design on them. The most abstract of the conceptions in the study was articulated as one in which the designer must come to terms with humanity as design is a core function of the human condition. The success of design is seen to come from a position informed by anthropological perspectives.

### **Putting it all together.**

Whilst many researchers have focused on describing variation in the ways that students and teachers experience learning, teaching or the subject to hand, and then provide sound advances in the development of learning environments, the focus remains on learning/teaching and curriculum that is bound by institutional contexts. The emergence of the Music and Design Entities - and now the knowledge that the 'Professional Entity' is a component of several professional fields, the time is right to further explore the nexus between institutional learning and the world of work. Theory and practice described in the research and outcomes of work-based learning allows us an insight into the autonomy required of professionals in the conduct of their work and also in the conduct of their learning. However, the discovery of the Professional Entity throws the ideas of the autonomous worker/learner and the 'spoon-fed' university student to the winds. Students forward projection into the world of professional work, the perception of the profession, has an important interaction with the ways in which they go about learning. Similarly, teachers experience of professional work has long been valued as it is supposed to be able to integrate the critical elements of the workplace within their teaching program. What happens then when a teacher has a view of work that is Extrinsic Technical? What happens when a student has a perception of the profession that is Intrinsic Meaning and then encounters a teacher who does not? One way of exploring some aspects of this particular problem has been the 'reanalysis' of our transcribed data.

The initial analyses of both data sets was focused on the identification of categories that defined qualitatively different ways of experiencing learning and teaching in music and design. The same transcripts provided evidence for the Music and Design Entities. Having determined these outcomes, we then went back to individual transcripts to look for evidence that a way of experiencing learning/teaching may be related to a way of experiencing professional work. Reid and Petocz (2002a) used this same technique with their transcripts of statistics students and found that, in most cases, the limiting conceptions of learning sat beside the limiting perceptions of work. In the diagram that follows we show how our design group also 'fit in' with this.

Professional Entity	Outside Focus		Inside focus
Extrinsic Technical  Des: Doing Mus: Technical skill	Conception 1: Learning Design, learning is about developing skills, acquiring knowledge and remembering techniques. <i>Conception 1 – Learning an instrument or voice</i> <i>Conception 2 – Learning an instrument or voice and some elements</i>		
Extrinsic Meaning  Des: Interpreting Brief Mus: Interpreting Score		Conception 2 Learning to be a designer, learning is about applying and experimenting with skills and techniques. Conception 3 Learning to be part of the design community, learning is understood to be the acquisition application of skills and knowledge. <i>Conception 3 – Learning musical meaning.</i> <i>Conception 4 – Learning to communicate musical meaning.</i>	
Intrinsic Meaning  Design: Living Mus: Communicating self.			Conception 4 Learning to innovate and change, learning is understood to be discovering about themselves. <i>Conception 5 – Learning to express personal meaning.</i>

### Using the outcomes of this research

Over the past two years, the outcomes of these research projects have been used to help specialist art and design teachers following a Postgraduate Certificate in Learning and Teaching in Art and Design to reflect on their practice as professional teachers. There have been some interesting spin-offs in this context. Firstly, whilst the outcomes are in concert with Biggs's (Biggs, 1999) notion of constructive alignment, they extend the concept into the professional world. But, as we have seen, students prior understanding of the professional world has an impact on how they go about studying, therefore an holistic conception of student learning must embrace students understandings of the professional world. This revelation for many art and design teachers has encouraged them to look more carefully at how students are inducted onto their courses, how they cast the learning outcomes for a project or a module, what activities they engage students in to achieve those outcomes and how the assessment of students might be structured to encourage them to move to an intrinsic meaning orientation which embraces conceptions of the world of work. One tutor of Animation, when engaging in these outcomes, said,



'The problem is that many students arrive to study Animation thinking that it is vitally important to learn how to draw sophisticated characters using state-of-the-art technology. That is their expectation and they are disappointed if it doesn't happen. On the other hand, most employers want animators who's work simply makes them laugh. This can be achieved equally effectively with simple stick drawings'. Here we see a teacher who recognises a significant problem in trying to reconcile the beliefs and expectations of the students with the needs of the industry. He sees that the abilities that the students expect to be developed on the course are fundamentally different to those which are characteristic of the subject of study and those more likely to get them employment.

Using a matrix (appendix 1), which relates students' conceptions of, and approaches to, learning and teaching with their conceptions of the professional world is also proving useful as an assessment tool for teachers. The matrix, which utilises Biggs' SOLO taxonomy (Biggs, 1982) along the vertical axis and our outcome space across the horizontal axis, helps to generate criterion referenced descriptors which are hierarchical and developmental. It can be used with students to help them understand the higher order, more meaning oriented objectives of learning on their course whilst having a clear idea of where they stand at the moment.

A further practical outcome of this study is the use of the matrix as a tool for curriculum design (see appendix 2). In establishing the level descriptors, a course team might wish to develop stage and module or project learning outcomes which relate to those in the matrix. The two axes invite course designers to consider the integrated nature of the descriptors, bringing subject conceptions and learning and teaching conceptions together. This profiling methodology provides a richer and more integrated characterisation of the learner at certain stages in their development than might be using differentiated approaches captured in individuated learning outcomes or assessment criteria.

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