

## **Qualitative differences in approaches to teaching, teacher satisfaction and communities of practice in art, design and communication courses**

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### **Abstract**

The aims of this study were to investigate how approaches to teaching relate to the concept of communities of practice and to monitor teacher satisfaction as a function of approach to teaching. Following interviews with art, design and communication teachers, a slightly revised ATI, with the inclusion of teacher satisfaction and communities of practice items, was distributed to teachers in the UK, USA and Australia. 130 returned questionnaires were analysed. The results show (a) that the ATI has validity in design-related areas, (b) that teacher satisfaction is related strongly and positively to student-focused approaches to teaching, and (c) that all teachers aim to develop students' skills, but those with a student-focused approach are more likely to also focus on the practice and the real world problems of the profession. The positive correlations between an emphasis on development for the professions and a student-focused approach to teaching, and teacher satisfaction and a student-focused approach to teaching, offer insight for those involved in the further development of teaching practice.

### **Introduction**

Drew (2000) has reported five qualitatively different conceptions of design teaching which she describes as ranging from the teacher as offering something to students, through to the teaching as helping to change students' conceptions. This pattern of variation in conceptions of teaching relates closely to the patterns of variation found in teaching more generally and gives some insight into an aspect of the qualitative variation in design teachers approaches to teaching.

Studies conducted on university teachers' approaches to teaching in other disciplines show that in some contexts, some teachers describe their approach as mainly student-focused, and they aim to help their students change their worldviews or conceptions of the phenomena they are studying. Students are seen by these teachers to have to construct their own knowledge, and their role as teachers is to help them achieve this end. While these teachers may use transmission methods among others, they appreciate that alone, transmission methods are unlikely to achieve the intended aims. This approach has been described as a Conceptual Change/Student-focused (CCSF) approach (Prosser and Trigwell, 1999).

In other contexts, other teachers, and some of the same teachers, describe an approach essentially limited to the information transmission elements of the description in the paragraph above, with the strategy being based largely on what the teacher does, rather than with a focus on what the student does. This approach has been described as an Information Transmission/Teacher-focused (ITTF) approach to teaching (Prosser and Trigwell, 1999).

The variations described above are significant as qualitatively different approaches to teaching have been found to relate to students' qualitatively different approaches to learning (Trigwell, Prosser and Waterhouse, 1999) and in turn, these learning approaches have been found to relate the quality of the outcome of student learning (Marton and Säljö, 1997).

Most of the studies that have led to the descriptions of the relations between teaching and learning have been conducted with teachers from the more traditional disciplines. And they have been conducted using an inventory developed from studies of university science teaching. The teaching of design subjects is often described in ways that are quite different to descriptions of teaching in more traditional subject areas such as science. Less use is made of lecturing and lecture notes, the activities that are employed tend to be more studio- and project-based, and involve smaller groups of students than in the more traditional areas.

Studies which embrace the sociocultural perspective on practice, particularly emphasise learning to practice in various settings. Learning to practice, whether in the workplace or simulated settings is seen as a move towards full participation in a community of practice (Lave and Wenger, 1991; Lave, 1993). That move to full participation takes place by engaging in 'legitimate peripheral participation' which is taking part in the authentic activities of the practice, albeit with guidance, and at the edges of the community. These views emphasise social practice as a premise for learning and that 'knowing in practice' arises from participation in that social practice (Billett, 1998).

Learning that results from participation in social practices means that the participants appropriate ways of seeing the world inherent in those practices. These situational and social factors are a key part of learning to practice (Billett, 2001). Billett argues that a non-dualist view of learning is becoming more accepted, based on the concept that there is an inseparable relationship between an individual's knowing and their social life-world (Rogoff, 1990). Many would argue that preparing learners for life as a creative practitioner, be that as an artist or a photographer, is essentially preparing them for solitary work. Rogoff (1990) suggests that cultural practices and norms shape even the most apparently solitary activities. This is further confirmed by Billett (2001):

*An artist working in the isolation of his studio reported shaping his practice to account for situational factors determining the kinds and purposes of his work that included physical environments and consideration of the market (p. 444)*

Jean Lave describes the social participatory perspective on learning as individuals developing and changing their identities, "... people are becoming kinds of persons" (Lave, 1996, p. 157). Lave's study of the apprenticeship of tailors in Liberia during the seventies identifies how the tailors were primarily making ready-to-wear trousers, but the apprentices also learned other important contextual factors about being a tailor:

*... they were learning relations among the major social identities and divisions in Liberian society which they were in the business of dressing. They were learning to make a life, to make a living, to make clothes, to grow old enough, and mature enough to become master tailors, and to see the truth of the respect due to a master of their trade.*

(Lave, 1996, p. 159)

These tailors lived in the master tailors' houses in a district full of those houses and also tailoring workshops. In the workshops the apprentices received direct and indirect guidance from participation in the tailoring practices, working with other tailors and other tailors' apprentices. These apprentices were effectively immersed in tailoring practice and this environment helped them to fully participate in tailoring and learn the trade. The community of practice is most certainly about "becoming kinds of persons", and about developing ways of seeing the world through practice.

The cornerstone of these issues for professional learning can be summarised as learning to practice or becoming inducted into a community of practice (Wenger, 1998). Wenger further defines the role of *participation* in a practice in its relationship with the *reification* of artefacts or processes particular to the practice. Wenger regards participation as ‘the social experience of living in the world’ (1998, p.55) which involves acting, thinking and feeling as a whole personal experience. It is from participation Wenger argues, that an *identity of participation* is constituted through the relations formed in participation itself.

Studies of experience, expertise and competence further demonstrate that learning to practice is not just about participation, but also about an experience of meaning which is constructed over time in engaging at the community level in order to build a repertoire of practice. Earlier studies of competence define a linear hierarchy of competence acquisition from novice to expert (Dreyfus & Dreyfus, 1986; Benner, 1984) which do not take account of social factors but do define aspects of competence as context dependent. Schön (1983) criticised the technical rational epistemology by elaborating on what he called an ‘epistemology of practice’. His study closely examined the professional work and learning of architects, engineers, psychotherapists, planners and managers. From this study he further determined two different types of human competence, knowing-in-action and reflection-in-action. Knowing-in-action illustrates the context-dependent nature of competence. The professional workers’ reflection-in-action further demonstrates and clarifies the context-dependent nature of competence.

Wenger (1998, pp.137-139) explains that learning in practice is possible if an experience of meaning interacts with a regime of competence. He also distinguishes between experience and competence, they do not determine each other but they may be out of alignment in the practice learning experience. Developing competence in the skills of a practice does not in itself build experience as the practice has many socially situated elements the meaning of which have to be negotiated within the community of practice. Billett (2001) has produced an authoritative study of knowing in practice and vocational expertise which uses accounts of Australian hairdresser’s learning to practice. He acknowledges both the social and the situational in the process of coming to know and in developing expertise:

*Expertise needs to be considered situationally, being related to the circumstances of the enactment of the vocational practice. This does not mean that the individual’s capacity to perform is welded to one setting. Rather, it recognises that expertise can only be understood within particular domains of knowledge and action (social practice), thus embedding it in particular social circumstances. (Billett, 2001, p. 441)*

These studies confirm that although building competence in skills is a crucial part of learning to practice, those skills are not enough on their own. There has to be a recognition of the socially situated contexts of the practice of which skills development is part of practice learning. Ideally competence in skills should be integrated into practice learning contexts so that learners construct an experience of meaning. Although there is much in the literature on practice learning there is very little which demonstrates how teachers in practice settings can engage with these concepts. In this paper we explore these issues and how they relate to teachers’ approaches to teaching.

The Approaches to Teaching Inventory (ATI) has been used to measure variation in approach to teaching in design teaching contexts (Trigwell, 2002). In that study it was found that, as in other teaching contexts, there is significant variation in descriptions of how teaching is approached in

design subjects, and that overall, the approaches adopted by design teachers are described as being more student-focused than in most other areas of higher education teaching. The results also suggest that when design teachers describe their approaches as student-focused they are more likely to say they learn more during the teaching of their subjects and are more likely to give students the opportunity to explore their own creative ideas, than when the teaching is described in terms of teacher-focused, information transmission. The Approaches to Teaching Inventory was found to be an acceptable indicator of qualitative variation in teaching approaches in creative fields such as design.

What has not previously been reported, for design teaching or in any other context, is the nature of the relations between qualitatively different approaches to teaching, and teaching satisfaction or fulfillment. Job fulfillment has been defined by Evans (1997) as “a state of mind determined by the extent of the sense of personal achievement which the individual attributes to his/her performance of those components of his/her job which he/she values”. She sees it as being that which we actively seek, and are satisfied *by*, rather than something we are satisfied *with*. The latter she calls job comfort, and suggests that this is obtained passively. Job satisfaction is made up of a combination of job fulfillment and job comfort, and is defined as “a state of mind determined by the extent to which the individual perceives his/her job-related needs to be being met. In research terms these are important distinctions. It is the outcomes of teaching that staff are satisfied by, rather than those they are satisfied with, that are the subject of this aspect of this paper.

In a detailed qualitative analysis of academic staff job satisfaction, Evans and Abbott (1998) report that 16 of the twenty tutors interviewed made it clear that they valued and enjoyed their teaching role and included it as a constituent of their ideal job. Some also made it clear what it was that they valued and what it was that had contributed to their enjoyment. These included elements of teaching practice: passing on knowledge, skills and understanding, being instrumental in enabling students to grasp something which had previously eluded them, feeling that they had made an impression, exerted an influence, challenged, empowered, enabled; that they had made a difference to someone else’s life (p. 98). Based on this description, it would be possible for teachers to feel that they had derived satisfaction in adopting either of the qualitatively different approaches to teaching described above.

Tutors in Evans and Abbott’s study who thought their teaching jobs were not ideal described refinements they thought would enhance job satisfaction. Those refinements included reduced teaching loads, smaller class sizes, responsibility for their own course, students who want to development themselves as learners, and in teaching subject matter that is interesting. All these aspects of the teaching environment, except the last one, are described by teachers in other studies (Prosser and Trigwell, 1997) as being positively related to a student-focused approach to teaching. Interest in the subject being taught, and satisfaction derived from teaching are both areas that have not been studied as a function of approaches to teaching.

In an Australian study, Ramsden et al. (1995) asked academic staff for their views on what would help improve the quality of university teaching. Removing obstacles to enjoying teaching, such as excessive workloads was thought by 83% of staff to be one way. 77% thought that creating a working environment in which staff can gain intrinsic satisfaction from teaching students, would do so.

The literature from the USA on job satisfaction is also largely focused on the idea of intrinsic satisfaction in teaching. Csikszentmihalyi (1997) notes that for a university teacher, intrinsic motivation is both the product of the activity and the means by which the product is realized. In terms of this analysis our interest is in intrinsic motivation as the product of the activity. McKeachie's (1997, p. 21) description of intrinsic satisfactions, including: delight in satisfying curiosity, the satisfaction in doing a good job, of meeting one's own standards of achievement, and the pleasure from participating in a stimulating discussion, can be seen as referring to outcomes.

Csikszentmihalyi (1997) argues that the main value of teaching for both the teacher and the student is lost if there is a lack of satisfaction in teaching. He goes on to say "Teachers who do not find their subject matter worthwhile in and of itself but teach it only for extrinsic reasons – pay or prestige – waste their own time and convey the message to students that learning lacks intrinsic value and is only a means to other ends." (p. 82). McKeachie (1997) summarised several decades of research on motivation and satisfaction and concludes that there is a good deal of commonality in the factors associated with teaching satisfaction.

This brief review of the literature and comments from both Evans and Abbott (1998, p. 93) [The paucity of research on university tutor's attitudes to their work makes it difficult to gather empirical evidence of factors influencing job satisfaction...] and Csikszentmihalyi (1997, p. 87) [Apparently there is no study relating a teachers' motivation to the effectiveness of his or her teaching...] suggest the need for research of this sort to be pursued.

Two questions are addressed in this paper. First, how does variation in approaches to teaching relate to the ways teacher-practitioners see the development of skills and communities of practice. Second, does qualitative variation in approach to teaching relate to teaching satisfaction or, are the teachers who describe a more student-focused approach to teaching more likely to be the teachers who say they are most satisfied by their teaching?

## **Method**

The Approaches to Teaching Inventory (ATI) is a relational instrument designed to capture qualitative differences in teachers' self-reports of their approaches to teaching in a particular context. It has two scales which were identified in a phenomenographic study of university science teachers approaches to teaching (Trigwell, Prosser and Taylor, 1994). The two scales are a Conceptual Change/Student-focused Approach (CCSF) Scale, and an Information Transmission/Teacher-focused (ITTF) Approach Scale. Each scale contains 8 items. Responses are sought on a five-point scale from *rarely, if ever*, to *almost always*. The development of the inventory and summaries of its use have been described elsewhere (Trigwell and Prosser, in press).

Data for this paper are derived from two studies. Both studies included the 16 items from the design ATI (Trigwell, 2002) with the satisfaction item: 'Teaching this subject is a satisfying experience'. The first study contained responses from 67 lecturers of varying experience who taught subjects making up a mixture of design sub-disciplines, including fashion design, visual communications, industrial and interior design, in universities and institutes in Australia, UK, and the USA. The second study with 73 teacher-practitioners in art, design and communication included an additional investigation of relations between approaches to teaching, skills development, and teachers' articulation of their communities of practice.

The additional 9 items used to capture aspects of skills and communities of practice were designed using data from interviews with teachers (Drew and Williams, 2002). A factor analysis of the responses to the nine items (table 1) shows that three items which focus on skills development (3, 6 and 9) load heavily on Factor 2, and four items which focus on developing a community of practice (15, 18, 24 and 25) load heavily on Factor 1. These items (with the exception of item 24) were combined to form scales, called Skills and Practice respectively. Item 24 was not included in the Practice Scale because of its high loading on all three factors.

Table 1: Principal Components factor analysis (with Varimax rotation) results of the nine skills/practice inventory items

Item	Factor		
	1	2	3
3	-.098	<b>.810</b>	-.029
6	-.040	<b>.856</b>	-.036
9	.126	<b>.681</b>	.337
12	.162	.137	<b>.740</b>
15	<b>.738</b>	.026	-.159
18	<b>.811</b>	.069	.255
21	.126	-.020	<b>-.578</b>
24	<b>.574</b>	.316	-.492
25	<b>.798</b>	-.273	-.015

N = 73; Eigenvalues >1.00

Items in the Skills scale are:

- 3 My aim in this subject is to develop students' technical competence in basic skills.
- 6 I think that an important reason for running teaching sessions in this subject is to demonstrate technical procedures correctly.
- 9 Being able to use the basic skills is a key aim I have for students in this subject.

Items in the Practice scale are:

- 15 I feel that it is important for students to experience the practice in a "real world" situation in this subject.
- 18 In this subject I help students apply their skills to "real world" projects.
- 25 In this subject I feel it is more important for students to engage with "real world" projects and to act like a practitioner than to develop and practice basic skills.

## Results

The relations between the teachers' approaches to teaching scores (ITTF and CCSF) and the Skills and Practice scale scores and the single satisfaction item are shown in table 2.

Table 2: Pearson correlations between ITTF teaching approach, CCSF teaching approach, skills and practice development and teacher satisfaction

	ITTF	CCSF	n
Skills	0.56***	-0.22	73
Practice	0.18	0.32**	73
Satisfaction (a)	0.08	0.37**	73
Satisfaction (b)	-0.22*	0.30**	131

\* $p < .05$ ; \*\*  $p < .01$ , \*\*\* $p < .001$

(a) from the skills and practice study

(b) combined results from the two studies

Table 2 shows that skills development is strongly and statistically significantly correlated with Information Transmission/Teacher-focused (ITTF) approaches to teaching. The table also shows that Conceptual Change/Student-focused (CCSF) approaches to teaching scores correlate positively ( $r=0.32$ ) and statistically significantly ( $p < 0.01$ ) with a focus on using "real world" problems (*Practice Scale*).

With respect to teacher satisfaction, a statistically significant positive correlation between a Conceptual Change/Student-focused approach to teaching and teachers' satisfaction is found in both the single study with 73 art, design and communication teachers (satisfaction (a)), and with the combined set of 131 teachers from both studies (satisfaction (b)). When teachers describe their approach as being more student-focused, they are more likely to report that they were satisfied. There is a negative, statistically significant correlation between an Information Transmission/Teacher-focused approach to teaching and teacher satisfaction for the combined sample.

A slightly different picture of these relations is obtained using a cluster analysis (table 3) of the 73 teachers in the second study. Unlike the analyses described above, the results of a cluster analysis group individual teachers into two or more clusters in which common responses to the set of variables are maximized in one cluster and maximally differentiated from other common sets of responses (in other clusters). The results of this analysis show three clusters, with one (Cluster 1) showing a relatively high mean score on the CCSF approach, a relatively low mean ITTF scale score, a relatively high mean Practice scale score, a relatively low mean Skills scale score and relatively high mean Satisfaction score for the 40 teachers in that cluster. Cluster 3 contains 13 teachers who describe a relatively low mean score on the CCSF approach, a

relatively low mean Practice scale score, a relatively high mean Skills scale score and relatively low mean Satisfaction score. These clusters can be labeled Student-focused and Teacher-focused respectively. Cluster 2 contains 19 teachers who have relatively high scores on all five variables, and it is difficult to label this cluster other than with words such as strategic. The differences between the clusters are statistically significant for all variables.

Table 3: Summary statistics of a cluster analysis (Hierarchical, Ward's method) of the ATI scales, Skills and Practice scales and Satisfaction item.

Variable	Cluster 1 (n = 40) Student-focused		Cluster 2 (n = 19) ??		Cluster 3 (n = 13) Teacher-focused		Sig. Dif.
	Mean	SD	Mean	SD	Mean	SD	
CCSF	4.24	0.37	4.25	0.42	3.20	0.40	0.000
ITTF	2.09	0.45	3.00	0.38	2.61	0.44	0.000
Practice	3.71	0.95	4.25	0.43	2.87	0.54	0.000
Skills	2.15	0.70	3.57	0.80	3.59	0.64	0.000
Satisfaction	4.60	0.63	4.84	0.38	3.77	1.09	0.000

This result suggests that when teachers describe a higher CCSF approach to teaching (Clusters 1 and 2), they are more likely to be focused on developing students' 'real world' practices than on skills development, and are more satisfied by their teaching than teachers who adopt less of a CCSF approach to teaching (Cluster 3).

## Discussion

There is a widely held view in university level teaching that a student-focused or student-centred approach helps students to develop as individuals. That they are also associated with approaches to learning which can lead to higher quality learning outcomes was confirmed in recent studies by Trigwell, Prosser and Waterhouse (1999). From the study described in this paper we can now add that in the teaching of creative practices the student-focused approach also aligns with an approach in which teachers encourage their students to learn through authentic practices ("real world" projects).

When teachers describe their approach as being more student-focused, they spend more of their teaching time on "real world" and practitioner related problems. On the other hand, when teachers describe their approach as being more teacher-focused, they report adopting a focus mainly on skills development. It should be emphasised here that most or all of the teachers in this study do develop skills with their students, but those with a student-focused approach focus more on inducting students into the community of practice by using "real world" projects and studio or practice-based approaches. If teachers of these subjects value the induction of their students into the community of their practice then it also follows that they should develop a student-focused approach and a related practice focus to their teaching.

This study confirms the views held by both Wenger (1998) and Billett (2001) that a skills based approach to learning to practice is simply not enough on its own. There also is evidence here that

a skills based approach corresponds with an Information Transmission/Teacher-focused approach to teaching. Those teachers who do integrate skills into “real world” projects and studio or practice-based approaches, help learners develop competence in those skills so that they can construct an experience of meaning. This has significance for the development of teachers in these subjects if high-level student learning outcomes in practice-based courses are a desired aim for the teaching.

In this study a statistically significant positive correlation has also been found between teachers’ Conceptual Change/Student-focused approaches to teaching a subject and their satisfaction in teaching that subject, and a statistically significant negative correlation between teachers’ Information Transmission/Teacher-focused approaches to teaching a subject and their satisfaction in teaching that subject. There is a general consensus in higher education that the idea of transmission is an impoverished view of university teaching. That view is generally expressed in relation to the quality of student learning associated with it, but the word impoverished might also be used in this case to refer to the quality of the experience of the teacher. The results reported here for art, design and communication teachers supports such usage. When, for whatever reason, these teachers report using approaches that have more characteristics of Information Transmission/Teacher-focused approaches, they express lower levels of satisfaction. Components of a teacher-focused approach include a focus on helping students to pass examinations, helping students to get a reliable record of the key issues, presenting the facts so that students know what they have to learn, and feeling that questions asked by students should be answerable by the teacher. Teachers aim to achieve these ends using transmission-based strategies, with the focus being on the content being taught. This approach is synonymous with Biggs’ (2001) Level 2 theory of teaching, where the focus is on what the teacher does. From this perspective the teacher accepts responsibility for the success of the action undertaken. With this responsibility, in combination with the nature of the strategies employed it is not difficult to see why this approach is likely to be more stress inducing, less enjoyable and less satisfying.

The approaches to teaching scores in art, design and communication obtained in this study, as with the previous study (Trigwell, 2002), show high levels of adoption of student-focused approaches. These teachers are describing their approaches in terms of using time to question students ideas, of using difficult or undefined examples to provoke debate, of engaging in discussions with students, and of assessing students in ways that get at their changing conceptual understandings. The teachers that report making more use of conversations with students about the topics they are learning; who are more encouraging of students to restructure their existing knowledge; and who are more likely to create more time for discussions between students, are the teachers who are more satisfied.

In all reported cases of its use, including the results from this study, described above, the Inventory yields interpretable data in the form expected using the educational principles from which it has been developed. For example, Conceptual Change/Student-focused approaches are found to relate positively with students’ deep approaches to learning (Trigwell et al., 1999), with perceptions of a manageable workload, some control over what is being taught, a manageable class size and small variation in student characteristics (Prosser and Trigwell, 1997) and with teacher learning (Trigwell, 2002). From this study can also be added the correlations with a focus on the development of professional knowledge for the ‘real world’ and positive relations with teacher satisfaction.

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