

Reflections on students' conceptions of learning
and
perceptions of learning environments

by

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Abstract

I began analysing data for this paper in order to follow up a case study (Taylor, 1994) which provided, amongst other things, an analysis of the extended written comments of a large sample (N = 842) of undergraduate students on their 'ideas about learning'. In it I concluded that:
The majority of undergraduate respondents saw learning as the pursuit of something less complex than understanding. (Taylor, 1994, p.72)
This paper is based on a detailed examination of the responses of 12 of those students to questionnaire and interview questions, classifications of those questionnaire responses, and the grades they received in the subject which was the focus for those responses. It is

a reflexive tale, arguing that any classificatory schema are ways of classifying statements, no more. I also argue the need to develop students capacities to become 'coauthors' of their opportunities to learn, and comment on the value of student ratings of teaching as measures of the quality of that teaching.

Introduction

I began analysing data for this paper in order to follow up a case study (Taylor, 1994) I had written for Nightingale and O'Neil's book,

Achieving Quality Learning in Higher Education. That work was based on an analysis of data collected through the Teaching and Learning in Tertiary Education (T&LiTE) Project

The Project was funded by an internal QUT Teaching and Learning Grant, funding support which is gratefully acknowledged here. The development of the project is discussed in greater detail by Clarke and Taylor (1993), which was conducted during 1992-1993 by a team of lecturers and research assistants working within QUT's School of Learning and Development. The case study provided, amongst other things, an analysis of the extended written comments of a large sample (N = 842) of undergraduate students on their 'ideas about learning'. In it I concluded that: The majority of undergraduate respondents saw learning as the pursuit of something less complex than understanding. (Taylor, 1994, p.72)

My initial aim was to extend that discussion by exploring the relationship between the conception they expressed and their views of learning environments, as discussed by Clarke (1994), and then to examine implications of these new findings for interpretations of students' evaluations of teaching. In particular, I was working from the expectation that because of the preponderance of quantitative conceptions of learning in this student population there would be a preference for learning environments which had a 'delivery' focus. However, I found that it was impossible to build

unproblematically on that
discussion in the ways that I had intended.

While my initial analysis of the written comments tended to support,
indeed
informed my expectations, when I turned to the most complete data set
for a small group
of students (N = 12) I found my assumptions and expectations being
challenged. For
example, given the majority's view on learning, I expected that
students' interview
comments on their approach to learning would be consistent with the
views expressed in
the written comments. However, rather than consistency, there seemed to
be a disparate
set of explanations for preferences which challenged my earlier tidy
interpretations. Thus,
rather than cautioning others as I intended, I am writing a reflexive
tale, cautioning myself to see my earlier work on
conceptions of learning as providing a fragile base for
either predicting or describing students' approaches to learning. I
have also returning to a
more central interest in the development of opportunities for students'
learning. I begin
with a brief introduction to some of the procedures involved in the
T&LiTE Project, and
then move to a more extensive consideration of students' perspective on
their learning.

The Elements of the T&LiTE Project

Twenty@one QUT lecturers, from ten Schools located in five Faculties,
accepted an
invitation to join the T&LiTE Project, although we worked intensively
with only sixteen
of these. Through these lecturers we gained access to the views of over
1200 QUT
students, most of whom were studying at undergraduate level.

The Project was conducted through a number of inter@related steps, of
which two
are relevant to this paper's concerns. They were:

1. A questionnaire survey of students, administered by the
research assistants during
normal class time, of participating lecturer's nominated class groups
to gather data
concerning those students' approaches to, and understanding of,

learning in a tertiary context. This survey was completed during the second semester of 1992.

The student questionnaire had five parts: Part A © a demographic section which included an opportunity for students to indicate a willingness to participate in a follow-up interview (see point 2 below); Part B © an open ended question inviting them to describe what they meant by learning; Part C © a set of questions which asked for semi-structured answers on their likes and dislikes concerning learning environments; Part D © a section which asked students to rate, using a Likert response scale, items related to factors which influenced their use of learning strategies, and items related to the use of particular learning strategies; and Part E © a section based on the Study Processes Questionnaire (SPQ) (Biggs, 1987) used to represent each student's approach to learning. The instrument was lengthy, and took up to 60 minutes for students to complete.

2. Semi-structured interviews were conducted by the research assistants with a limited number of students (48 in all) who were representative of different approaches to learning and of the collaborating lecturers' classes. These interviews were conducted after the end-of-semester exams, from November 1992 through to February 1993.

The value of paying attention to the learner's perspective was seen in terms of the proposition that "If we have some understanding of their perspective, then we are better placed to make sense of their engagement with and reactions to

educational settings" (Taylor, 1994, p.71). In seeking to explore the perspective of these students, the case study presented a discussion of student responses to Part B of the questionnaire.

The Learners' Perspective: the Case Study Analysis

Part B of the T&LiTE student questionnaire invited students to share some of their beliefs about learning. The invitation was worded:
Please write about a page or so on your ideas about learning. In that, you may consider such things as a description of what you think learning is, how you think you acquired that belief, what you know about your own learning, how you actually go about learning, what factors you think influence your learning and how they influence it, and how you know that you have learned something.

The questionnaire then provided two blank pages for a written response. Taylor (1994) presented findings based on an analysis of responses to this invitation using the schema of conceptions of learning discussed by Marton, Dall'Alba and Beaty (1992). This schema involves six hierarchically related conceptions of learning:

- (A) Increasing one's knowledge
- (B) Memorising and reproducing
- (C) Applying
- (D) Understanding
- (E) Seeing something in a different way
- (F) Changing as a person.

Biggs and Moore (1993, pp20021) further categorise these six conceptions into two groups: quantitative (A@C); and qualitative (D@F). The quantitative conceptions focus on the learning of isolated items, "ranging from unspecified `things' to facts and procedures" (p20), and with the quantity of these items that have been learnt. Qualitative conceptions focus on the meaning of those facts, on ways of seeing the world, and a philosophy of life, respectively.

Conception of Learning

A	B	C	D	E	F	Total No.
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Number of Responses	160	156	137	321	47	20	842
Percentage for each	19.0	18.5	16.3	38.1	5.6	2.4	

Table 1: Proportion of undergraduate students expressing each

conception of learning (from Taylor, 1994, p.72)

As noted above, my earlier discussion of these results (Taylor, 1994, pp73-74) tended to focus on the rather pessimistic and cautionary implications of the relatively low proportions of students whose views were consistent with the preferred conceptions of learning, that is the qualitative conceptions. My earlier discussion also made reference to the possibility that those preferences would be inconsistent with those of most lecturers, and would tend to lead to a pressure on lecturers to reduce the complexity of the task demands that these lecturers designed for students. I also noted the possible tension between the views of quality teaching that the majority, based on my analysis and expectations, would endorse, and the view of quality teaching represented in the literature on tertiary teaching. As a consequence of that tension, I sought to caution against the reliance on student ratings of lecturers as a strong indicator of the quality of actual teaching performance.

The New Analysis and Its Outcomes

In re-examining the data I sought to identify relationships between the views students expressed in the various contexts in which they responded. Given that we have interview transcripts, I also sought evidence relevant to assertions that I made in my earlier work. In particular, I asserted that:
 .. a focus for improving education that these findings suggests lies with the conceptions of learning held by students in addition to the more traditional focus on the subject matter being taught, that is metacognitive rather than cognitive knowledge. We would argue for approaches which orchestrate support for learning, drawing on strategies developed under the general rubric of both cognition and metacognition. (Taylor, 1994, p.74)

To what degree could I find evidence relating to the use of metacognitive knowledge, and what implications could be drawn from that evidence?

The data discussed here represents the responses of 12 students to both the questionnaire and interview questions, our classifications of their questionnaire responses, and their actual grade for the subject upon which much of their response focused. The classifications include a characterisation of their approach to learning, based on Biggs' (1987) Study Process Questionnaire (SPQ), in terms of both their motivation and the strategies they adopt, and a rating of those same comments, based on the work of Marton et al (1992), as discussed above. The overview of the outcomes of those analyses is presented in Table 2.

The students included in this sample were selected on the basis of there being a complete data set, including their end-of-semester grade, inclusiveness of the class groups, and the degree to which their results were at either end of the range. The number selected was limited to 12 in order to facilitate a qualitative analysis.

Each student's expressions of preferences for learning environments (see Clarke 1994 for more details of this) were also characterised in terms of the focus of the explanation of their stated preference. Five different foci were used.

Learning (L): the focus was on the use of strategies associated with a deep approach to learning

Task (T): the focus was on the use of strategies associated with task completion and a surface approach to learning

Social/Affective (S): the focus was on the social dimensions of the learning environment

Motivation (M): the focus was on the motivational dimensions of the learning environment

Personal Achievement (P Ach): the focus was on opportunities to achieve their personal learning/achievement goals.

The transcript of each student's interview was reviewed, and the response characterised, where possible, in terms of the student's: approach to learning, and related strategies; focus for the application of their studies @ academic or workplace; degree of self-awareness in terms of strategy selection; use of peer support; and views on the influence of their relationship with the lecturer.

The overview (Table 2) provides a sense of the relationship between the views expressed by these students in different contexts, and in terms of different classificatory schema. There were four different response contexts:

a Likert scale based rating of items (based on the SPQ questionnaire) used to generate the classification of approaches to learning in terms of motivation and strategy use;

an unstructured written response analysed through the use of the conceptions of learning schema;

a structured written response, analysed to

produce the characterisation of learning environment preferences; and a semi-structured interview.

There is, for some students, a clear indication of a high degree of coherence between the views expressed in those different contexts. For example, student 38 is characterised as expressing weak preferences, and a relatively superficial approach to learning, in all contexts. Student 347, on the other hand, expresses strong preferences, and a relatively deep and achieving approach to learning, in all contexts.

For others, there are indications of a lack of consistency in the views they express.

For example, the SPQ ratings for student 200 suggest that they have a well developed set of strategies, and that they could adopt any approach to learning that was appropriate to a particular task. However, the interview transcript, as exemplified later in this paper, suggests that she adopts strategies largely consistent with a surface@achieving approach.

Student 203 shows consistency in the views expressed in the SPQ section and the learning environment preferences but in the interview expresses views which are quite inconsistent with those. This raises the question as to why these inconsistencies exist.

Table 2: Overview of characterisation

Approaches to

Learning @ descriptions based on the SPQ refer to both motivation and strategy preferences. The codes are: a = achieving; d = deep; d@a = deep™achieving; s@a = surface@achieving; mxd = mixed, ie equal preference across all; d = deep@achieving, with an emphasis on the latter; d@a = deep@achieving, but low scores for both; mxd = mixed, with high scores for all; lmxd = mixed, but low scores for all; E.O.S Analysis of Comments

These numbers are those assigned to each student in the T&LiTE Project.

In her questionnaire responses, student 203 is seen as having a deep@achieving motivation, strongly using deep@achieving strategies, and having a strong preference for learning environments that focus on learning. In the interview, on the other hand, she seems unaware/unreflective in her approach to learning.

learn .. I thought that people did not take the lectures seriously, because there was no exam at the end. And if there was an exam at the end, you would have to go to every lecture, and listen and take copious amounts of notes, and things like that.

(later)

Int We were wondering if you thought the way you went about it

[learning in this subject] is the best way you could learn, the best approach?

203 To learn, umm, I don't know what other way you could do it, really. I don't know.

(later but still on the issue of approach to learning)

Uh huh. Umm, can you explain why you would do economics in one way, and the other in other ways?

203 Why I do economics ...

Int Yeah.

Umm, no (laughs). Well, economics, it, I don't, you don't. I suppose I could get books on it [economics]. I don't know really, why I did it like that.

For those of us who look only at the correlation between her written responses and her achievement, the correlation is in the expected/preferred direction, namely deep approach @ good result. Her interview comments, on the other hand, provide little assurance as to the nature of that correlation. Rather, it tends to question the validity of the 'deep' characterisation. On the other hand, her 'Marton conception', which reflects a belief that learning involves memorisation and recall, seems a better predictor of her interview comments. Thus, her preference for a deep approach to learning does not appear to be supported by a personal capacity to interrogate the context or monitor her approach to it.

Student 96 also appears to show discrepancies in her responses. She indicates in her SPQ responses a preference for deep motivation, but use of surface@achieving strategies. Her 'Marton conception', that learning involves making meaning, is most consistent with her motivation. Her preferred learning environment tends to be consistent with her preferred strategies. What of the interview?

96 I expect a lot of myself so I make sure that I do it [weekly tutorial] to the best

degree possible. I could have just left it but no, I go one step further and look [research] on.

Int So when you're getting that information, when you are doing that extra reading and research, what was it that you were trying to get out of the information?

96 Probably getting a better understanding of the whole

material rather than information so that I can spit it back out. I think I have developed a bit further than that, being my last year [of the degree course]. No that's not the technique. I mean it's the technique to pass exams. It's helped for a long time, but not now when I'm going to be out there doing things and I want to be the best.
(later @ commenting on how she records/summarises the results of her research)

96 Oh, I never put things in my own words. I've always strived to use the academic language that has been given to me. .. So I'd summarise into shorter, more concise words, rather than writing my own words.
(later @ same theme)

.. you know that the half@life of information is about 5 years or so. It's always changing but always the lecturers say "this is the correct material, learn this and you'll pass", and you think to yourself "this might not be the correct material in 5 years time". .. If you state your opinion a lot of the times I have found that it does go against you and it's just better to paraphrase exactly what the lecturer's said. But in some subjects it's necessary. In anatomy it's necessary. In philosophy I might have a differing opinion to the lecturer's, and you might get into a bit of strife.

I see these comments as indicating that her motivation is deep, but her strategies are strategic in the context of what her understanding of academic expectations. Thus, what appear as 'surface' strategies may be seen as appropriately

adaptive, although we, as educational researchers, may believe that deep approaches are preferable.

A closer look at motivation, strategy use, and metacognition

I offer extended excerpts from the transcripts of three students © 200, 347 and 449 © and will use them, together with a reading of the remaining nine transcripts, as a basis for a response to my questions concerning the development and use of metacognitive knowledge. I will begin with the views of student 347, and then move to those of 200 and 449.

Int The first question we would like to ask you is, how do you go about learning in Kay's subject?
(Pseudonyms are used for all lecturers.)

347 With Kay's subject, or with most subjects, what I try to do is, first of all, I decide on the relevance of the course in general. So that with Kay's subject,

that's talking about things like partnerships, and companies, and limited liability. So, when I look at it, I say, okay, that is what I want to find out at the end. And that is relevant to my degree as a whole, because I'm going to be working in business. .. So then what happens is .. it gives it [each lecture] a starting point, if you like, to something that I want to achieve at the end.
(later)

I try to pick on points that will probably be important, in some respects for assessment, and in some respects, things that I think I should remember out of the whole course. Because even though you go for 14 weeks, I'm not sure how many points that you will actually get out of the course that are, you know, really important. You might get ten points, you might get 20, but, they are things that are really important. They are, sort of, the core things, the things that you really

should know.

(on strategies)
about ten minutes,
and just try to concentrate on the main points that Kay went through.
.. I have a
set time for each subject. .. So then, when the set time comes, I
usually have a
look through the questions that were set for the tutorial,
and maybe again look
through the main points that I want to look for in the reading.

(on preparing for assessment)
I use mid@semester exams as sort of, a test to see how my study
program is going,
if you like. Because .. I think mid@semester tests are a whole lot more
important
than people make out. .. So, at the early stage, I sort of get a feel
of what's
required. Even when you look at the old test papers, you get a feel for
what's
actually required. .. I did a subject this semester, and I think I got
things wrong
on the mid@semester, of how I should study, and I changed my style of
study by
the end@of@semester. .. So, for different subjects, I will try to set
up different
methodologies, or, different ways that I approach things.

(on achievement and participation)
to get a [grade
of] seven, and you want higher marks than everybody else. So, I try to,
you
know, answer the questions, and try to steal as much of the lecturer's
time as
possible.

This is a student who is well on the way to completing a Business@Law

degree,
after having completed an Engineering degree. He focuses on both the
academic and
workplace implications of his learning. He has great clarity in terms
of goals and
strategies, and is flexible in the use of the latter to achieve the
former. That is, his
approach could be typified as highly metacognitive. What is not clear
is how he
developed this metacognitive knowledge.

Student 200, by comparison, is straight out of high school. Like 347, her grade for the subject through which she became involved in the T&LiTE Project was a seven (high distinction). Thus, they both enjoy high levels of academic success.

Int.. the first question we would like to ask you is about how you go about learning in Don's subject.

200 Umm, in Don's subject it's very easy to learn. He makes the classes enjoyable. Umm, in the tutorials you are free to speak your mind. Don opens the tutorial by leading with an open ended question, and the whole class is free to put in. And its good having a good class, because no one will ridicule you is you say something stupid, which I do all the time (laughs). So that way, we can just all speak our minds and learn what other people think. .. And then, of course, if you enjoy it, it is a lot easier to remember.

(On assessment)

Well, the assessment was basically my major focus, because that is what is going to affect me when I try to get a job, what marks I get.

(Back to learning)

We wondered what strategies you used for learning?

200 Umm, I am a terrible person. I am a sort of night@before@the@exam crammer. I am actually quite lucky. I have got a good memory, and if I listen in the lecture, I usually don't need to revise that until a couple of days before the exam, and then it all comes back to me.

(On personal organisation and cramming)

200 I could probably be a lot more organised. I am always, I am terribly disorganised, but it seems to work for me. I mean, I have only ever failed one subject, and that was art. .. Umm, but I am lucky in that I can do that. A lot of people that I know aren't able to cram before a test and still pass, getting a high

achievement. Umm,
I have always been able to do things like that. I was in a program at

[high] school
for the gifted and talented (laughs).
(later)

.. when I cram before a test, I have to be able to memorise things.
If I .. have a
list that has to be remembered, I take the first letter and make up a
sentence. I
learnt all these in Home Ec at school. You just learn all these things,
and that
makes it easy. You get to an exam, and you are asked a questions, you
think of
the word, and then you just have to fit in the words that go along with
those
letters. .. I've always done that at school, and it helps here. Umm, I
used to
record all my information on a tape, and then play it to myself as I
went to sleep.

And that works. That helped me to get a VHA in biology in Year
Twelve, doing that.

(VHA = Very High Achievement @ the highest level of
achievement in individual
subjects awarded in Queensland secondary schools.)

(on flexibility)

Int And, you approach every subject in the same way?

Yes, unless it is a really, really boring subject. I mean,
the subject may not be
boring, but if the lecturers make it boring. I had one subject first
semester, it was
just, everybody hated it. And I didn't really work hard for that one,
but I passed
it. I got a five, which was good.

(on critical thinking)

Do you think you're good at thinking critically?

200 Well, I am fortunate in that, umm, I was taught to think
critically at school. We
had subjects first semester where we had to do critical analyses of
things. And I
was fortunate, I got sixes and sevens for that because I had done it at
school. But
a lot of my friends hadn't been taught to think critically at school,

so they weren't
doing well at all.

Unlike 347, this student focuses on the academic outcomes of her learning. She has great clarity in terms of goals and strategies, and uses those strategies very successfully. However, she suggests little flexibility in the use of those strategies. That is, her approach could be typified as showing technical rather than metacognitive skills, in the sense that she shows little capacity to adapt her approach. She also shows, by comparison with 347, an inability to interrogate her context in order to impose order or to identify strengths or weaknesses in her approach. Thus, the skills she

uses seem to be better described as cognitive rather than metacognitive. However, unlike him, she makes it clear how she developed those skills © as a result of direct instruction at high school.

Student 449, like 200, is straight out of high school. Unlike 200, his result for the subject through which he became involved in the T&LiTE Project was a failing grade.

Int In this subject with Sue, how did you go about learning?
What sort of things did you tend to focus on while you were learning?

449 Oh, umm, just umm, reading a wide range of resources, basically. Because I was having a lot of trouble understanding it. So, I figured that if I read widely, I'd sort of eventually get the gist of the whole thing. [When I read] I take notes. .. I put it into my own notes because most of that is the psychological sort of stuff, is umm, not really easy to understand. So, umm, I'll just put it into my own words, as simply as possible. .. It doesn't mean much when you sort of write it word for word .. because you still don't understand it. .. I mean, sure you can quote the perfect answer, you know, from the textbook, but you still don't understand it.

Int Have you ever had to approach a subject in a different way to that? Where you didn't go for understanding? Where you had to rote learn something?

449 Oh, umm, no, not really. No.

Int You have always used that approach of understanding?

449 Always, yeah. Unless it is just purely definition.

Yeah, so if it's purely definitions, do you find it's different?

449 Yeah, it's slightly different. .. As long as you've got an understanding of it, what it's about, I mean, you can usually remember the definition of it really easily.

(on the value of class discussion)

449 I think it's sort of important to sort of keep the lecture class in their toes. I mean, ask questions and things like that. .. I found .. my learning went up and down with the questions. .. With class discussion, my level would sort of be raised up a bit. You know, I'm hearing what other people are saying, and it's in their terms, in their words. And then I am starting to understand it, and I'm a little bit more interested.

It is interesting to note that while I do not know the actual Tertiary Entrance scores of 200 or 449, 449 was able to transfer into a Bachelor of Built Environment course after failing this subject. That is, while the preference for a deep approach that he expresses in this interview, may not have paid off here, he is clearly not an unsuccessful student. On the other hand, he clearly lacks flexibility in his use of learning strategies, and those strategies are not coherent with his achievement motivation, as suggested in his response to the SPQ questions. In this he, like 200, shows a low level of metacognitive self-awareness. Unlike her, he appears to have a very limited repertoire of 'cognitiveskills'.

I would like to suggest some implications of my reading of these three transcripts for an understanding of metacognition and attempts to improve students' approaches to learning.

It is clear that successful students pay a lot of attention to the context of their studies. In particular, a focus of the academic context, and the assessment demands, is critically important. These interviews suggest that it is the student's capacity to coordinate their goals and strategies that is significant. That is, it is not enough to have deep™achieving goals, as 449 appears to have, if you don't have the strategies to flexibly respond to different task demands. Nor is it enough to have a set of particularly powerful skills, as 200 appears to have, if you remain dependent on the lecturer to indicate which skills you should use. Thus, it is clear that successful students are able to consider the interaction of particular aspects of the context of their studies. Flavell (1979) indicated that metacognitive knowledge addressed three issues @ knowledge of self, knowledge of the expectations of others, and knowledge of the task demands. It is also clear that the capacity to orchestrate this knowledge is also critical to adaptive approaches to learning.

The analysis also suggests that lecturers need to develop strategies to enhance the likelihood that the learning that they are assessing, and therefore rewarding, has a broader focus than the simple accumulation of grade points. Student 200 provides an example of someone who seems to excel at learning@for@learning's@sake. Nowhere in her interview is there any suggestion of awareness the value of her `cramming strategies' for her intended career, other than that her grades may impress an interview panel. On the other hand, while student 347 appears to possess adaptive metacognitive knowledge, his learning

seems to lack an ethical dimension. It is self@interested in ways that implies that he would pursue those interests at a cost to his peers. That is, the move to enhance student learning

should serve interests beyond the mere technical, an issue that is noticeably absent from discussions of 'the lifelong learner' (see Candy's [1994, p4] Profile of the lifelong learner for an example of this omission).

Discussion and Conclusions

The stories that these students tell of themselves, and their needs, as learners have a degree of coherence that we might expect. On the other hand, that coherence is emergent, and each vignette, when viewed in isolation may give little sense of that underlying coherence. Thus, it was only through reviewing the interviews that I was able to interpret the more cryptic comments provided on the various sections of the questionnaire. However, the issue here is to ask 'so what', what did I learn from undertaking this analysis?

First, the classificatory schema are ways of classifying statements, no more. They do not give us, as researchers, unbridled rights to draw implications, or to make inferences.

Second, if we seek to focus on some vignette from a learner's story about learning we may not access the larger context within which that aspect makes sense. As a result, we may make sense of that vignette in ways that are entirely inconsistent with the sense that it has within the larger story of its author. I also want to indicate that I'm uncomfortable with this metaphor, because it is apparent that 'the story' is not individually 'authored' by a student, but arises within a context, and that the ongoing influence of that context and the preceding contexts experienced by this person. Thus, it may be more useful to refer to this person as a 'co-author' of their story. That is, the story that students tell is not their individual construction but tends, to varying extents, to be an outcome of the context of the story. Here I am referring to the significant social, academic and physical aspects of the context. Thus, the context is also a 'co-author' of the individual's story.

Third, the most successful students were those who were most reflective about and flexible in their approaches to learning. Rather than describe their approach to learning as deep, I think it is more appropriate to describe it as adaptive. They had highly developed strategies that were closely aligned with their motivation to achieve excellence in their

learning outcomes. They also tailored their approach to the demands of the particular learning environment and task demand, yet tended to be active co-constructors of that environment.

Fourth, some students are quite unreflective about their approach to learning. They may not know why they adopt particular strategies, even though they know that they approach different subjects in different ways. It is clear that the teaching of learning strategies can lead to a very mechanical application of those strategies unless the students are reflective in their approach to learning.

Fifth, the approach to learning adopted by students reflects a number of issues.

While the assessment demands are very important, it is clear that the actual opportunity to participate, and the quality of support for that participation, are also very important.

Finally, the student's prior experiences of formal learning are also extremely important influences.

On the basis of these points, and the earlier discussion, I would want to propose several conclusions.

At the most fundamental level, while our processing of students' responses in terms of particular schema may allow us to classify those responses, we need to be very careful in attributing meaning to the patterns that emerge from that process. For example, while a student may respond in ways that indicate that they are adopting 'surface strategies', we may be quite mistaken to assume that this individual matches the particular stereotype of a surface learner which we have in mind. Further, the more elaborate the schemata, the greater the risk of misinterpretation. Clearly I would

want to caution
against the use of the 'conceptions of learning' schema as a way of
making judgements
about students' views of learning, unless we invest considerable effort
in eliciting those
views in some detail and considering them 'in situ' rather than in some
decontextualised way.

Further, while all interview respondents had a clear, but individual,
sense of who
was responsible for what in terms of learning, few seemed to appreciate
that the
negotiation and exercise of that responsibility could be a joint,
rather than individual, project. Thus, there may be
considerable benefit for subsequent participation and learning
if all courses included a significant attempt to explore students'
approaches to learning
within the context of discipline subjects at this level. Those
explorations should be
seeking to help students increase their self-awareness of context
appropriate approaches to
learning, and their awareness of and skills in becoming co-constructors

of their learning environments. Those explorations should also
discuss the
how and why of participation as
more than just technical questions, moving to also examine
philosophical and
moral/ethical aspects of participation. In essence what I'm calling for
is an explicit
attempt to help students become active and critical co-constructors of
their opportunities
to learn.

Finally, the notion that student ratings of teaching reflect the
quality of that
teaching seems very problematic. What these responses suggest is that
students see a
lecturer's performance in terms of expectations, and those expectations
may have little in
common with the more abstract notions of quality teaching which
academic researchers,
such as those, including my (former) self, who contributed to the
Nightingale and O'Neil
(1994) book, tend to discuss. Thus, one student may think a lecturer is
terrific because
they make the subject entertaining even though the process is
lecturer-centred and the
assessment tasks invite a surface approach, while another finds this as

superficial and unworthy of their interest. Another may think a lecturer is wonderful because that lecturer effectively transferred all responsibility for the learning to them, as student, while another may think this is dreadful because they have to accept most of the responsibility for learning.

What does this discussion mean in terms of the interpretation of student ratings of lecturers. I think that it means a number of things. While I am loath to endorse the concept, a global evaluation may well be the best indicator of student satisfaction with a lecturer (Hativa & Raviv, 1993). However, that rating is just that a rating of satisfaction and it tells us nothing of the reasons for that degree of satisfaction. More importantly, it tells us nothing about the actual quality of that teaching, where quality is seen in terms of some abstract set of research-based criteria. Whatever their opinions, it will always be unclear as to the basis of students' judgements. For this reason, student judgement can not be relied upon to be, in that sense, "good" judgement.

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