

Using learning journals to identify critical incidents of understanding

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Introduction

Learning journals have been used extensively in Art and Design at University College Worcester (UCW) as a means of evidencing the kind of approach, deep/surface, students have taken to their learning. They are increasingly being recognised as a more reliable means of establishing whether students understand what they are doing than the finished artefacts such as paintings, ceramics and even essays. This paper will outline the role of the journals in relation to the assessment scheme, which is structured around Biggs' SOLO taxonomy (Biggs J, Collis K, 1982), and explore several of the problematics that arise in both their use and their non-use. The paper will also examine the nature and use of learning outcomes since they play a significant role in the journals themselves.

Background

The development of learning journals in art and design at UCW has been undertaken within a broad context of national debates about the improvement of the quality of student learning (ISL, 1993 onwards) and about the explicating (HEQC Graduate Standards Programme, 1997) and establishing and maintaining of standards (Dearing Report, 1997, and subsequently the Quality Assurance Agency: Higher Quality, 1997). Yet, the identified need for journals in art and design at UCW was not so much a direct response to these debates as more a consequence of course design that some of these debates promoted. That is to say that, given a commitment to improving the quality of student learning in art and design through encouraging students to take a predominantly deep approach to their learning, learning journals have become a very important site for the evidencing of that learning. That journals can now be used as a significant means of explicating learning for the purposes of accountability, ownership, enhancement and external scrutiny in the standards debate is a rather fortunate side effect.

The rationale for the introduction of learning journals, whilst pragmatic in reality, seems to have embraced the following logic:

Premise 1: Students who take a deep approach to learning are more likely to achieve a better academic performance (provide more sophisticated learning outcomes) than those who don't. (Biggs JB, 1985)

Premise 2: Students are more likely to take a deep approach to their learning if they have a conception of what taking a deep approach is. (Laurillard, 1979; Ramsden, 1984)

Premise 3: Students are often strategic about their learning and assessment plays a role in their strategic thinking. (Entwistle NJ, 1992; Norton LS, Dickins T, & Cook NM, 1996)

Therefore, if students are to achieve sophisticated learning outcomes then, not only do they need to understand what taking a deep approach consists in, but the assessment demands should encourage them to take a deep approach to learning, even if they are strategic in their approach.

One of the important outcomes of this conclusion was to construct the assessment criteria so that students taking a deep approach to learning were rewarded. Hence, the strategic question posed by students, 'How do I get the best marks in this module?' elicits the response, 'By taking a deep approach to your learning.' This reappraisal of what should be

assessed, to an extent, reflects the challenge of 'backwash' - 'the notion that testing drives not only the curriculum, but teaching methods and students' approaches to learning, usually adversely' (Biggs J, 1995).

The assessment criteria were structured, therefore, to reflect the *approach* to learning that students took to the tasks set. The approaches; unistructural, multistructural, relational and extended abstract, map directly on to Biggs' taxonomy. In effect, therefore, students are being rewarded for the approach to their learning and not the learning itself. A student may achieve a predetermined learning outcome but how well they have performed in achieving that learning outcome is determined by the approach they have taken. To facilitate the assessment, the criteria were constructed in 'domains': cognitive; practical; contextual; and personal and interpersonal, which are intended to cover the broad attributes of the subject (see Appendix 1).

There are some significant implications here. It is not sufficient, in this context, for students to demonstrate that they can provide the correct or appropriate answers or responses to any set task. They must also evidence that they understand what they are doing. If students are taking a deep approach then they are at least attempting to make sense of what they are doing and not just reproducing what they think the teacher wants. But the sense-making part of learning is not always evident, in art and design, in the final piece of work. Indeed, a student who is generally successful in operating strategically will be adept at producing convincing answers to conventional tasks. In art and design it is quite possible that a student is able to provide a substantial amount of acceptable work in response to a project and yet have learned very little within the project. This can happen, for instance, when a student develops a style of working which has been commended in the past. Aware that grades are important, this student might continue to work in that style and modify it for different projects accordingly. In a conventional assessment, which traditionally in art and design has emphasised the material outcomes, such as the painting or the design work, the student may well be rewarded for his or her productivity and quality of material outcome but there could well be questions remaining about what has actually been learned as a result of the project. Here there is a clear distinction between the quality of the *material* outcome of learning - the artefact, and what has actually been learned.

What students present for assessment is a consequence of a number of factors and not least of these is work that has been deliberately constructed to pass the examination rather than work which reflects the level of engagement in the tasks set. In informal interviews, students readily admit to being alert to comments and other signals from their tutors that might enable them to perform better in any forthcoming exams or tests. In many cases, what the tutor personally approves or disapproves of during the course of study is seen as a more important clue to achieving better grades and hence influencing learner behaviour than any published assessment criteria. In this context of learning, it is difficult to believe that learner autonomy, or even creativity, stands much of a chance of being established. When there is a sole focus on the artefact as the principal medium of identifying learner achievement, there is a danger that students' intentions are more directed at making the artefact acceptable to the assessor than them being directed at making personal sense of the issues inherent in the tasks set. This observation is as equally true for those students who are engaged in their subject as those who are not. Teacher approval and disapproval are major drivers in learner behaviour and, even in those contexts in which assessment criteria exist and teachers claim to use them, the dilemma for a student over whether to follow their intuitions or be directed by what they think the teacher expects is an important reality that is often ignored by teachers.

With the development of the assessment criteria at UCW and an acknowledgement that, if students were to take an increasing responsibility for their own learning, then they should

also participate in their assessment, a self- and peer- assessment strategy was designed. The protocols were written with an emphasis on explicitness and collaboration. Again, this raised the issue about the evidencing of learning and its accessibility to all those involved in the assessment process.

Learning journals

Learning journals were introduced to help resolve these dilemmas. Given that the material outcomes of learning in art and design were considered only partial (but nevertheless, necessary) evidence, that learning had taken place, the journals were seen as possible sites for further evidence of the kind of approach that students were taking to their learning. Students are encouraged to track their learning as their engagement in a project progresses. They are invited to develop their thoughts, observations, insights and, in particular, their reflections on their learning in relation to the set tasks. As they are aware of the structure of the assessment criteria they are encouraged to structure their approach to their learning accordingly.

Since their inception and continued use, the journals have confirmed the above observations about learner behaviour. To an extent they have confirmed that it is possible for students who appear, as a result of their art or design work, to be taking a deep approach to their learning are in fact not. On the other hand, some students who appear to be struggling with their art or design work turn out to be engaged in resolving some quite meaningful dilemmas in their thinking, none of which are evidencible in the material outcome - indeed, on the face of it, quite the opposite appears to be happening.

The following comments are made by students about the way they went about dealing with their respective tasks. The first three are taken from learning journals whilst the fourth is an extract from an interview. These comments are used as examples for first year students as part of their introduction to the assessment scheme. They are intended to illustrate what taking a deep or surface approach might look like and in particular how it might appear in a learning journal. Experience working with journals suggests that it is not often that evidence of the higher levels appear in such succinct forms, often they are developed over a number of pages. Indeed, evidence of an extended abstract approach, whilst relatively uncommon anyway, rarely presents itself so conveniently, hence the extract from the interview.

Student 1

I couldn't think of what to do for the abstract project, but then I suddenly thought, as I was sticking shapes carefully onto paper (the idea from the workshop last week). I remembered how a member of our learning team painted a picture and cut it into strips. I decided to try cutting my paper into strips once I'd stuck the shapes on. Then I cut the paper horizontally this time. I then stuck them down randomly and drew outlines, defining lots of different shapes. This seemed to work. So I tried it again, this time with bigger shapes (I used small shapes before) and I cut the paper diagonally. I was also pleased with this result. I feel I can experiment a lot with this kind of thing now.

Student 2

I developed the sketch by simplifying some shapes and gradually reduced these down to the stone and the ashtray. They contrast each other in shape.... but compliment each other too. I began to simplify the background too and tried out different ways of blocking in colour and then I introduced the blue which I think goes well with the brown when used in moderation. I didn't particularly like the effect when I used more blue than brown as I felt it took over too much and looked cold. I began to enlarge the stone and its shape changed - becoming almost like a bottle. I exaggerated the curve of one side of the ashtray and made the other sides straighten and also stretched the perspective so that it became more dramatic.

Student 3

Having spent some time down by the river, taking photographs, I was more inspired by the idea of reflections rather than the broader idea of water, but I was unsure what my next step should be....It was as I looked at the photos of the church spire that the patterns captured my attention. It was easier to see the shape at a certain time and see the distortions as the photograph held everything still. I decided to concentrate on the patterns, hence the line drawings. I realised though that that wasn't the most prominent quality I liked. The drawings weren't as interesting as the photos - the fleeting image was gone and so were the colours.

I tried using acrylic paint - I thought I could get more vibrant colours. I picked the reflection of the tree whose leaves had already changed to the autumn oranges and reds. I tried to adopt a similar technique to Cezanne with the dashes of paint - trying not to concentrate too much on the overall shape of the tree because there was no fixed shape in the reflection, but focusing on the areas of colour.

Student 4

Interview with Phillipa

Phillipa's major project was a teaching aid in physiotherapy. I asked her why she chose it.

I was interested in exercise. I looked at different aspects of it and physiotherapy was perhaps the medical information side of it, putting exercise into appropriate use for people who really need it; stroke victims, amputees, sports injuries, it covers such a wide range.

I asked her if she had looked at the whole teaching programme;

Yes the whole teaching process and I found that with all the subjects that they have got, there is physiology, pathology, anatomy, movement science is a wide range of subjects, but they are all inter-dependent on each other, so it obviously makes sense for them all to be viewed together in some way....so what I did was anatomy, you need to view that with pathology or movement science to work out where the muscles are and how they work, how you compare the exercises. And, basically, all they had were text books, so I thought the best thing to do was have a teaching aid, possibly inter-active that could involve the students. Also they did not have anything for open days or induction courses....they just have leaflets, so I thought something was needed to go with leaflets to interest people. So my target groups were prospective students and first year students. I had to come up with something that solved problems in lots of different areas.

Students 1 and 2 have somewhat similar approaches insofar as their accounts are heavily descriptive and follow a linear sequence. 'I did this then I did that and so on'. Student 2 is more sophisticated in that judgements about the activity are being made but they generally relate to states of mind; '...which I think goes well....', 'I didn't particularly like the effect....' Student 3 is trying to settle on a theme for her project by relating her experiences of the world to the task in hand. She considers, evaluates and rejects possibilities. She makes several comparisons and she is able to make references beyond the immediate to another artist. Certain expressions that student 4 uses seem to be evidence of a deep approach. Firstly, she makes a conceptual leap when, having recognised that the subjects in physiotherapy are inter-dependent, she says '*so it obviously makes sense for them all to be viewed together...*' Her recognition of something obviously making sense is telling here. Secondly, she resolves the problem in the following words; '*so I thought the best thing to do was have a teaching aid, possibly inter-active that could involve the students...*' Here the use of the personal pronoun suggests her 'ownership' of the project and the recognition that *something inter-active...could involve the students* is indicative of her understanding of ways of learning. Finally, she recognises at the end of this quote that her solution to one problem could be extended to solve one or two others that she had recognised. (For examples of pages from learning journals see Appendices 2 and 3).

In each of the above examples, there are clear indicators of the approach that the students are taking to their work. These indicators could not, however, in themselves be considered as sufficient for making an overall judgement of learner performance. Students who see their learning as consistent with a deep approach quite often shift from one approach to another depending on the circumstances, so a snapshot from a journal cannot be regarded as an absolute. Indeed, often students take different approaches to different aspects of their course. One student may be fully engaged in the practical element of a project but have developed no interest in contextualising that practice. On the other hand, a student might have become involved in further problematising a given project and consequently make significant contributions to the critique whilst taking a surface approach to the practice.

The problem of learning outcomes

The differentiation between the material outcome of learning, the artefact, and what a student has actually learned has raised broader questions about the nature of learning outcomes. In an HE context in which learning outcomes are being increasingly recognised as a more appropriate determinant of quality than teaching inputs (eg, Subject Quality Review), what is meant by the term ‘learning outcome’ is in more need of clarification now than ever before. There is a substantial history of the development of learning objectives/outcomes since the 1920s. In the 1950s behaviourist theory contributed to much of their development in schools especially in the USA. Currently, the revival has two loci: the emergence of GNVQs since the early 90s (Jessup G, 1991) and, more recently, the Graduate Standards debate (HEQC,1997) and, subsequently, the re-emphasis in Subject Quality Review on the quality of the learning experience of students. These recent developments are not mutually exclusive for their broad intentions are to make more explicit to the stakeholders in HE; teachers, students, employers and fundholders, what is actually being learned by students studying for a particular qualification. Where they differ is in relation to their perceived goals of education. GNVQs are predominantly employment focused with emphases placed on competencies and practical outcomes whereas the graduate standards debate is subject focused with an emphasis on cognitive matters and a concern to make more explicit what a degree in a particular subject consists in. Ultimately, these two loci may dissolve into one, particularly when the QAA Benchmarking project is completed. But first a dichotomy has to be resolved. How can cognitive outcomes be identified and articulated within a competencies-based framework without being subjected to the drawbacks of such a framework? One of the major criticisms of the outcomes model has always been that it only operates effectively if the outcomes specified can be identified and measured. The negative deduction being that we will end up teaching and assessing only those outcomes that can be measured.

The concept of ‘understanding’ has always posed a problem for competency-based learning (Mager RF, 1962) yet to enable students to understand is considered a principal goal of higher education. The difficulty with ‘understanding’ is that it is not considered an observable behaviour. How can we measure it if we can’t observe it? (Mager RF, 1962). Or, how do we measure the complex cognitive behaviours that contribute to understanding?

One response to this, in the setting of learning outcomes, is to disaggregate what is to be understood into more measurable entities, such as; at the end of the module students will be able to: describe and explain.....; analyse.....; compare and contrast, and so on. This seems a reasonable resolution. It makes more explicit at the outset what a student needs to do to provide evidence that they understand the conceptual requirements of the tasks set. Or does it? What is the relation between the disaggregation of what is to be understood to the re-aggregation of the learning outcomes? Does it follow that if a student satisfies the disaggregated learning outcomes that he or she understands. And if understanding has taken place, how is the level of understanding determined? It simply does not follow that a

student will be able to make sense of the whole despite making sense (or senses!) of the parts.

Another, similar, anxiety expressed about the disaggregation of understanding is that it can encourage teachers to construct the curriculum to meet the needs only of each objective, treating the whole enterprise as ticking off the items on a list. Getting through the list becomes the priority, promoting a surface approach, rather than enabling an holistic and integrated understanding by the students, which is more consistent with a deep approach. Here there is not only the potential for a shift from a qualitative to a quantitative conception of assessment but also there is the likelihood of the list being seen by both teachers and students as the limits of learning. A good example of this might be the new BTEC guidelines for their HNDs (see Appendices 4 and 5). The added complexity here, however, is that it is very difficult to determine the difference between the learning outcomes and the assessment criteria. The grade descriptors, which are intended to differentiate levels of performance, could also be taken for learning outcomes.

Another concern about learning outcomes is that, in any structured teaching/learning context, students are likely to generate learning outcomes over and above those pre-specified by the teacher. How are these treated in the assessment? In observing that 'a teacher cannot always anticipate what valid forms student's constructions may take', Biggs offers us a helpful metaphor:

Teacher: How many diamonds have you got?

Student: I don't have any diamonds.

Teacher: Then you fail!

Student: But you didn't ask me about my jade!

Learners amass treasure not just diamonds.
(Biggs J 1996)

It seems pointless to develop an outcomes approach to the construction of the curriculum, with the expectation that it will improve the quality of student learning, if the assessment process does not align itself with that approach.

Otter recognised this when the GNVQs were being developed. Commenting about learning outcomes in relation to the nature of higher education she said;

'one of the major expectations of higher education is that students will create their own unplanned outcomes, and that staff do not wish to define these in advance. The ability for students to create their own agenda for development is an important feature for some courses and the description of the outcomes which must be achieved should not preclude or discourage the recognition of other achievements.'
(Otter S, 1995)

However, she concluded from this that

'the role of outcomes in higher education may be better applied to describing, and ensuring a specified range of achievement for all graduates, than in seeking to provide exact and exhaustive descriptions of all achievement.'

This raises the issue about the level of specification at which we should establish learning outcomes. At too general a level they are unhelpful to either teacher or student and beg the question as to what counts as satisfying the assessment of the outcomes. At too specific a level they become overly prescriptive and provide closure of the learning context.

Finally, we might ask the question: ‘Whose learning outcomes are they?’ Inevitably, in the learning context, teachers articulate the intended learning outcomes as a means of defining the learning context and making explicit what they expect students to learn. And, as was noted above, students can acquire learning outcomes over and above those set for the task. Thus, teachers set the learning outcomes, students achieve them and sometimes more. However, Sally Mitchell (Mitchell S, 1994), whilst looking at the nature of argument in literature has, through the work of Mayer (Mayer S, 1993), provided us with a rather interesting conundrum. In her work she was investigating the role that argument plays in students’ essay writing. She observed that:

‘Narrative and argument can be present in the same text but the text will be different (will have different meanings) if read as narrative than if it is read as argument or, indeed, if it is read *narratively* (obediently) rather than *argumentatively* (suspiciously). There is almost certainly a tendency to foreground narrative above argument in English (at A level at least): how often, for instance, do we ask of a literary text, what does this text *argue*?’
(Mitchell S, 1994)

This clearly resonates with deep and surface approaches to learning, in which students either receive the text as a sequential story (surface) or they look to construct meanings within the text (deep). Yet, whilst accepting that argument in essay writing is regarded as important by teachers, she recognises a paradox. It is to do with collective subjectivity and she illustrates it with a comment from a student:

‘There are more rights and wrongs in English....its the way it’s discussed sort of openly, everyone ends up thinking the same thing, with the same ideas’

Mitchell explains the paradox as a consequence of ‘two constraints on individuality and subjective interpretation: 1) texts are prescribed and implicitly valorised by their inclusion on course lists and 2) texts are thought about in certain ways and not others for the purpose of writing and examination’.

In suggesting how to this might be overcome, she refers to the ‘Double Trouble’ exercise used by Mayer. In this students are invited to respond to a short quote from GB Shaw’s ‘Pygmalion’ (see Appendix 6). Firstly, they are asked to respond by ‘beginning your writing with a description of the text and what it “means” or represents’. On another piece of paper they are asked to begin their statements with. ‘But something bothers me’. They are asked to be hesitant, questioning their assertions and certainties of the ‘right’ side: to explore double meanings and alternative conclusions: relate what is said to personal experience and to subjective responses; don’t censor the outrageous or the improbable. In the sample response, there is a clear distinction between the student writing for the purpose of the academic task and contributing to the ‘collective subjectivity’ and the same student expressing their personal views about the text. What is interesting is that these are qualitatively different learning outcomes. The latter are clearly more sophisticated and insightful despite them being regarded as subjective. Here is a case in which the personal learning outcomes are much more profound than those expected yet might never have been considered, or indeed encouraged, in a conventional academic setting.

Learning journals and Critical Incidents

If learning ultimately has something to do with the transformation of the learner, then there should be evidence in any learning event of that transformation. What counts as transformation and how it is characterised is interesting in relation to learning outcomes. Although there is a rationale and guidelines for keeping learning journals in art and design

at UCW, inevitably students use them differently to each other. Students who take a predominantly surface approach will be heavily descriptive in their comments. Those who take a deep approach move between a deep and surface approach when needs must. What is interesting about the journal comments of students who take a deep approach is the personalised nature of them. They see learning as attempting to relate what they already know to new knowledge and, in the more sophisticated cases, accepting that new knowledge could well undermine some of the conceptual frameworks they have developed during their lives so far. Being able to differentiate these crucial events, in which students begin to see the world somewhat differently as a result of learning, from the rest of the milieu of the journal is becoming increasingly more difficult as students, in recognising the value of the journal as a means of making their learning explicit, use them more and more.

One of the expectations of involving students in their own assessment was that it would make the task of assessment a little quicker. Whilst this outcome has not particularly materialised, it is true that the ever extending journals have, in some cases, become time consuming to assess. Somehow, for the purposes of efficiency, we need to be able to access the important elements of each student's learning.

The differentiation of the critical incidents from the rest of the events in the journal is, for the purpose of expediency, the next developmental step.

Conclusions

Learning outcomes, as we have seen, are fundamental if we are to enhance the relationship between learner and teacher. They are, as we've also seen, problematical. They are, as used in contemporary higher education, a semantic nightmare, shifting their purpose and meaning from context to context. But there is, nevertheless a recognisable dichotomy in the nature of learning outcomes which needs to be resolved. That is, the relationship between the intended learning outcomes set by the teacher, along with their level of generality and the kind of evidence that would satisfy successful achievement of them, and those highly specific, personal learning outcomes which are actually achieved by the student and the appropriate evidencing of them. The tension for the student, in such contexts, exists in having to decide between what is sufficient to satisfactorily achieve the intended learning outcomes, and hence get the grade, on the one hand and what they have actually learned, and the value of that learning, as a result of getting engaged in the tasks set on the other hand. As we have seen from the work of Mitchell, these outcomes can be qualitatively different, although the conventions of learning and teaching in HE reward the former rather than the latter. In art and design, where the outcomes are often set at a high level of generality with the expectations of students being 'creative' and 'original', the problematic is compounded.

Using learning journals to track student learning has revealed and, in this context, emphasised this problematic for us.

In asking students to identify the critical incidents of their learning in relation to particular tasks set might offer a way forward. In order to identify and articulate these incidents it requires of the students a meta-cognitive disposition in which they reflect on the important aspects of their learning. It will be up to them to demonstrate how their learning outcomes, in all their specificity, map onto the intended learning outcomes set by the teacher. This matching up of outcomes may just be another contribution, albeit from another angle, to the debate on 'cognitive alignment' (Biggs 1996).

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