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Changing the traditional lecture format to foster a deep approach to learning among a group of students.

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Abstract

Providing feedback on revision papers provided to a group of Phase 6 apprentice painters and decorators brought concerns regarding the approach to learning of this group of advanced apprentices. Correcting these papers indicated a large degree of confusion and incorrect answers on the paper. It appeared that the gilding module was not being understood at a conceptual level. Recitation of facts was not a problem but the linking together of different aspects of gilding was not happening. Specifically, the concern was that the students were engaging in a surface approach to learning which could be detrimental and that I may have unwittingly contributed to this approach. The provision of revision papers, in an effort to assist learning and revision, may have contributed to the perceived tendency for surface learning by focusing on stand alone facts and being short answer questions. As a result of a process of investigation and research the format of my lectures changed in an effort to foster a more conceptual or deep approach to learning. These changes included moving the lecture out of the classroom and moving towards an interchange of information rather than a delivery of facts and information. The changes implemented on this module indicate a better understanding of the module content while also helping to improve my own teaching methods.

Keywords: Surface learning, deep learning, painting and decorating apprenticeship, lecture format.

1 INTRODUCTION

This paper will explore the concept of a surface approach to learning in a group of phase six apprentice painters. As a result of exploring how students learn I became concerned regarding the approach to learning of apprentices. This worry arose from correcting revision papers on a gilding module. There was a large degree of confusion and incorrect answers on the paper. It appeared that the module was not being understood at a conceptual level. Recitation of facts was not a problem but the linking together of different aspects of gilding was not happening. Specifically, the concern was that the students were engaging in a surface approach to learning which could be detrimental and that I may have unwittingly contributed to this approach. This paper will begin with a brief outline of the phase six painting and decorating programme and the gilding module that caused concern. The provision of revision papers, in an effort to assist learning, may have contributed to the perceived tendency for surface learning. A literature review of surface learning and deep learning will be conducted. As a result of a process of self-reflexivity it will be shown how the format of my lectures changed. This change was implemented in an effort to foster a deeper level of understanding of the material of the gilding module and to improve my teaching methods.

1.1 Phase 6 programme.

Phase six of the apprenticeship training program is the second from last period of an apprentice's training. It involves a ten week block in an institute of technology. During this ten week period both theory and practical exams occur. The phase six theory test takes place in week ten. The three hour test comprises of twenty short answer questions covering thirteen separate theory modules. This curriculum and exam is set by an outside agency and the institutes have no control over it. It is a very restrictive time period to cover the content. This in itself may pre-empt deep learning as students become overloaded with coverage rather than depth (Biggs and Tang, 2007). Also, research has shown that time pressured environments can have a detrimental impact on students approach to learning and metacognitive development (Case and Gunstone, 2003).

1.2 Gold leaf gilding.

The particular module that caused concern was gold leaf gilding. There is between one and three questions on gilding in the exam. Briefly, gold leaf gilding refers to the transfer of a very thin layer of gold leaf to a surface. There are two types of gilding: loose leaf gold gilding and transfer gold gilding. Both involve transferring very thin layers of gold to a surface. Both

types involve using an adhesive to stick the gold to the surface. While they share this similarity they are otherwise completely different processes in the preparation of the surface, the application of the gold leaf and the finishing of the job. Gold leaf gilding is a highly specialised area and the module is completely new; it is not covered in any way at any earlier point in the apprenticeship programme. The relative obscurity of gold leaf gilding has led to some students referring to it as a history lesson rather than as something that still occurs. Biggs and Tang (2007: p.33) point out that with 'a history of successful engagement with content that is personally meaningful, the student both builds up the knowledge base needed for deep learning and, motivationally, develops the expectations that give confidence in future success.' The relative obscurity and the newness of this module means there has been no history of successful engagement with gold leaf gilding. This may hinder deep learning as well as expectations of future success.

As part of exam preparation the class are usually given a question paper similar to the exam paper. This question paper mimics the short answer style of the exam and the student usually work on it in his or her own time. The questions are stand alone, assessing for independent facts. These types of questions encourage a rote learning approach. Rote learning is indicative of a surface approach (Biggs & Tang, 2007) and is not a genuine sample of scholarly performance (Biggs, 2002). By providing this type of revision papers I may have unwittingly been contributing to a surface approach to learning. As part of my own self reflexive exercise the papers were collected and formative feedback provided. This was undertaken in an effort to encourage a belief in future success on behalf of the student (Biggs & Tang, 2007). According to Hattie (2003) monitoring and feedback is one of the features distinguishing expert teachers from their peers. By providing formative feedback the intention was for the student to correct wherever any potential errors lay before the formal exam.

The results were surprising. There was a general mixing up of some of the basic concepts. The confusion from some of the papers would seem to indicate that the learner did not understand the fundamental difference between the two types of gilding. A good example would be this: it is not possible to apply transfer gold leaf with the adhesive that is used for loose leaf gold gilding. And yet in several of the answers this was indicated. Further, transfer gold leaf is not required to be 'backed up' i.e. apply a coat of protective paint over the back of

the gold. Again, this was indicated in the answers provided. It could be argued that the students simply were not motivated to learn at this point in time as the exam was in the future. Given the perception of gold leaf gilding as being more akin to a history lesson it may be that the students did not have an interest in the task itself. This could lead to a lack of intrinsic motivation to learn (Biggs & Tang 2007). An intrinsic motivation indicates an interest in the task or activity itself. Encouraging and preserving intrinsic motivation as a means of enhancing deep learning is an ideal that educators must aspire to (Ford, 2007). Indeed, Biggs and Tang (2007: p.36) state that 'intrinsic motivation drives deep learning and the best academic work.' The confusion among the revision papers led me to reflect upon my teaching and on the approach of the students to learning. I believed that the students were engaging in a surface approach to learning. Smith and Colby's (2007: p.207) call for educators to 'engage in intentional efforts to foster deep learning in their students' resonated with my own teaching as I concluded that I would have to embark upon a similar path.

2 SURFACE AND DEEP APPROACHES TO LEARNING

In a study carried out by Marton and Saljo (1976, cited in Smith & Colby, 2007) a learning task was set for a group of students. The group were given a passage of text and told they would be asked questions on it at a later point. One approach to the task was through memorisation of the facts. A second approach was to understand the big ideas in the text. Marton and Saljo characterised these different approaches as surface and deep approaches to learning. There are criticisms of the deep and surface approach classification of learning. Kember (2003) cites the case of Asian students who outperform their Western counterparts in academic performance and yet engage in surface learning. Students were observed sitting in a classroom and quietly reading and studying. This was perceived to be surface learning and yet results indicate that a deep level of understanding was taking place. Kember posits the deep/surface level distinction cannot be applied to the Asian situation as the Asian students apply a surface level approach with an attempt to understand the content. Webb (1997) criticises the notion of surface and deep learning. He cites the 'simplicity, universality and power of the deep/surface metaphor, made the message appealing, acceptable, practical and generalisable' (Webb, 1997: p.199). He states that the dichotomous label of deep and surface learning suited those looking for a foundational theory in education and corresponds with the rise of educational development centres. Entwistle (1997) supports the surface and deep

approach and maintains that such a simple theory is the ideal starting point and 'conveys complex pedagogical principles in readily accessible ways' (Enwistle, 2007: p.214).

2.1 Surface approach to learning.

A facet of the surface approach is the rote learning of content and this generally involves low cognitive-level activities (Biggs & Tang, 2007). Information is memorised for assessment purposes and there is a focus on unrelated parts of a task (Atherton, 2009). Biggs and Tang (2007: p.23) provide a list of student features indicative of a surface approach to learning. These include:

- An intention to achieve a minimum pass.
- Insufficient time.

These points are highlighted because they are pertinent to my teaching. From listening to my students I know that most simply want to pass the test. The time limit on the course is very restrictive at ten weeks and thirteen modules to be covered. Ford (2007) states that more time to engage reflectively with content should be part of any course.

As stated above I was concerned that the provision of a revision paper may have been encouraging a surface approach to learning. In a paper by Smith and Colby (2007) the results showed evidence that a majority of teachers in their research aimed their teaching at surface level. The findings also indicated that the subsequent learning in the majority of students was also at surface level. Biggs and Tang (2007: p.23) also point out that teaching methods can encourage a surface approach to learning. Some of the factors they cite include:

- Assessing for independent facts, inevitably the case when using short answer and multiple –choice tests.
- Providing insufficient time to engage the tasks; emphasising coverage at the expense of depth.

These factors are highlighted because I can identify with them. The formal assessment is set outside the college and I have no input into it. It is a short answer test and I have mimicked it with the revision papers provided to the class. This type of examination encourages a surface approach due to assessment of facts rather than concepts (Ford, 2007). It is my belief I was unintentionally reinforcing the potential for a surface learning approach. It has been argued

that if the teaching resource is designed to elicit surface response that is what will be given (Smith & Colby, 2007). By imitating the exam I may have been eliciting a surface response. The time restrictions of the course also meant that depth was sacrificed for coverage.

2.2 Deep approach to learning.

In the case of a deep learning approach the student feels a need to engage with the task in a meaningful manner. As a result of this need the student will use the appropriate cognitive activity to succeed in this. The deep approach to learning is characterised by a focus on main ideas, principles or themes (Biggs & Tang, 2007). This is particularly important in terms of gilding as knowledge of independent facts is not enough to understand the processes involved. Simply knowing what each tool is used for does not imply an understanding of the process involved in the two types of gilding. Deep approaches have been shown to be associated with sophisticated learning outcomes (Case & Gunstone, 2003: p.55) and should ideally connect new learning with old learning (Cottrell, 1999). This is difficult in the case of gilding as it is a new module.

There are ways for a teacher to encourage a deep approach to learning from the students (Biggs & Tang, 2007). Two factors resonated with my teaching as it became obvious I was doing the polar opposite of these recommendations:

- Teaching to elicit an active response form students by questioning, presenting problems, rather than teaching to expound information.
- Assessing for structure rather than independent facts.

(Biggs and Tang, 2007: p. 25)

Previously, my classes were carried out using PowerPoint presentations that served to merely expound information. The lecture was a transfer of information rather than a learning environment. There was no active response form the students. Further, the assessment questions were not assessing for structure. They were assessing for independent and stand alone facts.

3 CHANGING MY LECTURE FORMAT.

It has been argued that being active is better than being inactive when learning is taking place (Biggs & Tang, 2007; Cottrell, 1999). With that in mind the class was brought down to the workshop where the practical work is carried out. The purposeful setting of a theory class in this room was done in an effort to prime the apprentice for active learning. A display board was set out with all of the materials required to carry out a gilding job. The materials were clearly marked and laid out on a table. Various materials are composed of various chemicals which are distinctly aromatic. In an effort to encourage learning through different sense modalities (Cottrell, 1999) the class were encouraged to handle, smell and look at all the components on the table. On a flip chart was a list of all the materials that were laid out on the table. This list was written in a haphazard fashion so as not to assign any order to the list. Two sheets of glass were on display; one had a completed gilding job and the other was at the beginning of the process. The students were told that all the materials required to go from a blank sheet of glass to a finished job were laid out on the table. On the blackboard were three headings: preparation, application, finishing. The group stood around the table and each item was explained in general detail. There were no seats in the room. This was done to avoid sustained and long periods of low level activity whereby the attention span may drop and learning suffer (Biggs & Tang, 2007).

After this initial talk, the group was split into pairs. Three questions were presented, one at a time for the group to work on.

1. How is the surface prepared?
2. How is the gold applied?
3. How is the job finished?

Groups of two and were given a few minutes to consider the questions. They were actively encouraged to write down any type of answers or ideas. Each question was dealt with in turn. The group were encouraged to give answers no matter how wrong they thought they might be. I corrected their wrong answers as nicely as possible without the student loosing face or being ridiculed (Biggs & Tang, 2007) while trying to point them in the right direction. The answers were not presented to them but rather a process of elimination was conducted by crossing out the used materials. Hints were dropped regarding some of the more useful purposes of some of the materials. Cottrell (1999: p.5) points out that deeper learning is achieved when a

student is ‘both actively and personally engaged.’ At one point it seemed as if there was a race for the answer and the atmosphere became very competitive.

3.1 Consolidation in the classroom.

This workshop part of the class ran for approximately one hour and ten minutes. After a short fifteen minute break the students went back to the class room. The three headings of preparation, application and finishing were written on the board. The group were asked to write down the process involved under each heading and told their answers would be collected. This process of reviewing the learning that has occurred could possibly help with consolidating that learning (Biggs & Tang, 2007). Indeed, from the answers it was obvious that all of the class understood the process involved in glass gilding. The actual precise terms for the tools and materials used were not correct but the underlying process was correct. The class were then given handouts and a PowerPoint presentation was done. In the past this would have been the complete lecture. Previously it proved to be a difficult lecture as the students grappled with new concepts and materials. This was not the case this time and the theory element was covered smoothly and efficiently.

4 CONCLUSION.

I am currently reworking the old revision papers in an effort to move away from stand alone recitation of facts. The new papers will be written consciously in an effort to capture a more conceptual understanding of the processes involved in the particular module. I will have to be mindful of the formal assessment. While I can explain the benefits of a deeper approach to learning it must be borne in mind that there is a restrictive time limit and the students main aim is to pass the exam. The formal assesment is the test which the students must pass in order to progress their apprenticeship. The feedback from this group was very positive regarding this part of the gold leaf gilding module. As a result of this feedback the same process was engaged in for the transfer gold leaf element of the gilding module. The group knew what to expect the second time and participated with great enthusiasm. Consolidation in the classroom followed and it was clear that there was a deeper understanding of the processes involved in the two separate types of gold gilding. Every time I start a class I tell the students to take out a blank sheet of paper and write down the process of both types of gilding. Each time the answers are getting better. I have found this experience to be very

fruitful in terms of the level of understanding and activity in the classroom. The students seemed to relish this type of learning. There was a general sense of disappointment among the group that I did not have the other theory modules prepared in the same way. From a personal point of view I have also found this task very fulfilling and I hope that I may have improved my teaching also.

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