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## **Engaging in an action research cycle on the Irish Standards Based apprenticeship to provide time for learners' engagement.**

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### **Abstract**

Lecturing on the Irish Standards Based Apprenticeship Programme which is a prescribed vocational course with a set time limit brought various concerns regarding the course. These concerns included the restrictive time limit, the delivery modes and the level of student learning. Having to present course theory notes in a very limited time period left little exam preparation time with the possibility of the students engaging in a surface approach to learning. Being cognizant of these issues an action research cycle was commenced in an effort to improve the situation and provide time for the learners' engagement with the material. This involved writing a complete set of new lecture notes, presenting the students with booklets and changing the mode of delivery. This enabled a reduction of the delivery time for the theory modules. There were unexpected developments such as apparent student disengagement and absenteeism from lectures. A process of reflection was engaged upon and in a second action research cycle adjustments were made to the booklets and the corresponding PowerPoint presentations in an effort to encourage more student participation. Initial results indicate a positive impact on grades. Further work needs to be done in terms of engaging the students learning beyond a surface approach and moving towards a deep approach to learning. This is the hope for the future as there is now more time to develop such teaching practices.

**Keywords:** action research, apprenticeship, painting and decorating, surface learning.

## 1 INTRODUCTION

I teach on the apprenticeship training programme in a large Third Level Institute in Ireland. This relatively new course is the standards based apprenticeship and involves seven phases that are divided among block release periods alternated with on the job training provided by the employer. Each phase is assessed and must be passed to progress. The programme is overseen by a National Agency – FAS. The block release phases consist of twenty weeks in a FAS training centre followed by two periods of ten weeks in an institute of technology. As educators in an Institute of Technology this time period for the phase four and phase six is restrictive and pressurised as much material must be covered and exams have to be done. The current Irish standards based system is similar to the Australian system that was put in place in the early 1990s. As Johnson [1] points out a key element in the Australian experience was to break up the long training programmes that relied on content and duration and make it into smaller components that could be assessed individually. This is similar to what occurred in Ireland where under the old system of apprenticeship it was duration that provided the qualification and the exams were optional. I am a product of the previous system in which college was attended for one day a week during the academic year for a period of four years with optional exams in June each year.

In my experience the previous system provided ample time for the material to be covered and learned prior to the exams. It also provided time for interaction and questioning among peers and the lecturers. As a result of this longer lead in time for exams the apprentices were well prepared for the exams. Coming from this system a comparison between the new and old was inevitable. It was determined that, under the new system, my pedagogy was didactic and allowed no room for input from the student. It became obvious that the term ‘living contradiction’ [2, p. 23] applied to the teaching that was occurring. In essence my values were being denied by my practice. The contradiction was that the advantages of the old system were well known while at the same time the drawbacks of the new system were apparent. It was part of my educational values to provide more exam preparation time, similar to the previous system, for the students. It was hoped that the provision of more time would allow for reflection on content and to possibly encourage a deep approach to learning. In line with my desire to live more fully in the direction of my educational values (ibid p. 46) a decision was made to seek to improve the way the course was being delivered. My research question

was: How can I improve the delivery of the phase four theory classes in order to facilitate revision/study time in preparation for exams?

To begin, the issues within the course that caused concern will be summarised. From there it will be shown how the action-reflection cycle was a spur and impetus for taking action. The success and some of the pitfalls encountered during this process will be explained and finally the current position of this process will be outlined. It will be seen that the lecturers experience was affirmative and the feedback from students was positive. As a result there is an intention to continue with the action-reflection cycle.

### **1.1 The Irish standards based apprenticeship system**

The phase four is a ten week course divided into practical classes and theory classes. In this period four theory tests and four practical tests have to be completed. There are designated theory classes that are inflexible. Two theory tests take place in week five and two in week ten. Each module must be covered within four weeks in order to provide revision time before the test. The curriculum is set by an external national agency – FAS - and there is no set text book for this course. The apprentices must complete and pass each of these tests to progress to phase five of the apprenticeship program. Each of these tests covers a specific subject. They are signwork, decorative arts, spraying and wallcoverings.

The grading on the theory tests rests upon a pass mark of 70%. There is very little room for less able learners on such a marking scheme. Coming from a secondary school system where a pass mark is 40% to a system where it is 70% is undoubtedly a cause for concern for the less able learner. Williams and Bateman's [3] research showed that less able learners were concerned at the implications of receiving a mediocre grade in terms of their motivation and employment prospects. A mediocre grade under the apprenticeship system is a fail. Therefore the worry for the less able learner is far greater under the apprenticeship system.

The apprenticeship course covers several different and distinct areas. It was envisioned that ongoing assessment would be a component but this did not transpire. The current specific module content exam is the norm. Assessment undoubtedly drives the learning as the students are only interested in covering the content that is to be assessed. It is a concern among the lecturers that this assessment driven learning is a surface approach to learning. Marton and Saljo [4] classify two different levels of learning processing as surface level processing and

deep level processing. Smith and Colby [5] indicate a surface approach to learning as a process that involves a minimum interaction with the task, a focus on memorisation and procedures that do not consist of reflection. The time limit of the course means that there is no time for reflection and memorisation is a requirement due to the newness of the content being covered. The questions on the test are short answer questions and are quite specific leaving no room for conceptual answers. Surface learning is also indicated by an intention to achieve a bare pass (ibid). Achieving a bare pass on the apprenticeship course requires a 70% grade. A lot of content has to be remembered to achieve this grade. It is understandable that the students engage in a surface approach to learning given the course requirements and restrictions.

The mode of delivery of the course notes was that the students sat in a room taking notes from the lecturer, the expert, standing at the top of the room. The assessment was not only driving learning but also driving the teaching. As Thompson and Robinson [6p. 169] point out 'The type of assessment (examination or coursework) rather than the knowledge and skills required corresponds with the teaching strategies and preparations for assessment.' The lectures were delivered with a view to deposit the information into the student. The student then sat an exam where they regurgitated the information that had been delivered. It was a concern that this type of learning and assessment was possibly undermining the acquisition of the relevant knowledge and skills necessary to become a qualified tradesperson. The whole process was pressurised with no time for the interactions experienced under the old system of day release.

There seems to be a trend towards moving areas like apprenticeship more in line with standard college based practices. Johnson [1] refers to this as 'academic drift' where vocational programmes are moving in line with college based general education. Experience indicates that apprentices do not see themselves as taking part in any form of higher education. Even though all phase four and phase six programmes take place in an institute of technology there is a misconception that the apprentice is still training with FAS. Many of the apprentices are surprised at the amount of exams they have to do and the large theory element involved in their apprenticeship. Johnson [1] suggests that learners who take vocational courses may have a different profile to those taking college course and the vocational training sector are more interested in getting qualified in a particular area rather than a general education.

Many aspects of the phase four course were unsatisfactory but particularly the time period available to deliver the theory element. An overhead projector in conjunction with transparencies was the mode of delivery. The students wrote down the text as if it were a text book, which in real terms it was as there was no text book for this course. The note taking process is composed of a number of complex tasks [7] that can be challenging for the student as it requires writing skills and listening skills at the same time with a constant interaction between the two. For the apprentices the time required to write down the notes varied according to the writing ability of the students. If the delivery went at a slow pace then there could be very little time before the exam to allow for revision. This was a major cause for concern as it was felt that the students were not being given enough time to prepare for the exams and indeed their whole learning experience was somewhat hurried. We were already engaging in a period of reflection when a student with severe writing difficulty began the course. There was nothing that could be done for this student and this was extremely frustrating. This proved to be the tipping point and it was decided to change the way things were being done.

## **2 WHY ACTION RESEARCH?**

In the workplace concerns were being discussed regarding the course as it was being delivered. These casual discussions led to a formal meeting in which these concerns were explored and discussed. Action research was a good fit for the possible solutions that could be undertaken to alleviate these concerns and an action plan was decided upon. This process was undertaken not as part of any contractual obligations but rather because a desire to be better teachers and in doing so to enhance the learning of the students [8, p. 382]. The action plan outlined by McNiff [9] was considered and adapted. The process was as follows:

- The current practice was reviewed.
- An aspect was identified and investigated.
- A way forward was imagined.
- The way forward was tried it out.
- Took stock of what happened.
- Modified what was being done in the light of what was found, and continued working in this new way, with an option of trying another new way if this proved unsuccessful.
- Monitored what was being done.

- Reviewed and evaluated the modified action.
- and so on ...

[9, p. 11]

Whilst there were concerns regarding the whole delivery of the course the reflections focused particularly on the spraying module. Data was gathered and previous results investigated. The data showed that the spraying module was producing the highest number of fails. The spraying module introduces new material with which the apprentice is completely unfamiliar. It covers very technical and complicated tools and machinery which the apprentice will not have come across before. As Cottrell [10] points out the learning of new material can be dependent upon past learning experience. If the material is new, then there is no foundation upon which to build and if the language is unfamiliar the brain needs to build new connections to deal with this. There is a drastic change in the complexity of this module compared to what has come before and what is currently being delivered elsewhere on the course. Evidence produced by Reed, Dempster & Ettinger, 1985 [cited in 10, p. 41] suggests that just such a drastic change in the complexity of learning is detrimental. They suggest that new learning should be at around the same level of previous learning. Adjusting the curriculum to such a degree is outside of the control of the lecturers. Whatever change that was to take place would have to occur within the confines of the existing course.

At this point in the deliberations a way forward was imagined which involved the writing of new course notes and delivering them through a PowerPoint presentation. The embarkation upon this project carried concerns for the lecturers. Principle among them was the time and distance involved in writing subject specific booklets and - probably more intimidating - changing the delivery method.

Changing the delivery method.

It is fair to say that as a lecturer I viewed my position as somewhat entrenched [2] in that I was the expert standing at the top of the class and the students were the passive receivers of knowledge. This mode of delivery and teaching was becoming unsatisfactory as it was evident that some of the students were not coping too well, for instance the student with severe writing difficulty. It was conjectured that delivering the theory element of the course in a more efficient manner would allow time for more interaction with the students and more exam preparation time. A more efficient use of the time available would allow for the

possibility to develop more learning strategies for the classroom to help improve the students learning.

The classrooms were being upgraded at this time and were outfitted with podiums and computers and projectors. This proved to be an ideal time to move away from an overhead projector and acetates and into PowerPoint presentations. A specific PowerPoint presentation for the spraying module was written. The initial intent was to print off the slides as handouts. However, when producing the notes as handouts they were printed as a booklet rather than as PowerPoint slides. This would potentially avoid the linear sequence of slides that may imply a hierarchy of ideas [11] which is not how the notes work. The slides were completely rewritten into a Microsoft Word document. The document was printed and photocopied and bound as a booklet, with approximately forty pages, and given out to the class.

### **3 FIRST CYCLE EVALUATION**

The spraying module was covered in four theory classes rather than the previous eight. This left a lot of time for revision and study which was allowed for in the classes which were now free as a result of covering the material more efficiently. The results for that group were promising as there were no fails in the theory test. The group were asked to anonymously fill out a short questionnaire. Sixteen questionnaires were given out and sixteen were returned. There was overwhelming support for the idea of the booklet but there were some reservations. Principally, it was suggested that the booklet was too long with too much text. It was also suggested that it needed more graphics to illustrate some of the inner workings of the machinery. Finally, the students pointed out that it made the class boring.

From a teaching point of view there were also drawbacks with this new system. The new method, while efficient, made for a very dull class. There was very little interaction from the students as they sat passively reading the booklet. One lecturer observed that some of the students were not even turning the pages to keep up with the PowerPoint presentation. It was obvious that the theory classes took on a particularly lack lustre sheen as the apprentices appeared to disengage completely with the lecture. In research by Young, Robinson and Alberts [12] they refer to 'vigilance decrement' in classic chalk and talk lectures where the students were passive learners. Their research showed student disengagement after a period of time when they do not have to interact in the lecture. This is what was observed during the lecture. Previously, it had been the assumption that when the student was writing he or she



appeared to be engaged with the material at some level. To outward appearances it now appeared as if this type of passive reading with no writing involved allowed a complete tuning out from the lecture. This was not expected and came as a surprise.

Another fact that was surprising was that attendance suffered. It was speculated, as others have regarding attendance [e.g. 13], whether students were making better use of their time by studying on their own. When questioned as to their absence, several pointed out they didn't need to be there as they had the notes. They did not see the value in attending when they had a booklet produced by the lecturers covering all of the class notes. They did not see the value of the interaction and verbal exchanges that take place in the classroom. Moran [14, p. 43] cites several advantages to attendance of a lecture, among them the 'drama and immediacy of a well crafted lecture can inspire audiences in emotional ways.' Webb and Cox [15] point out that the slides are only one part of the presentation and what is done with them and what is said during a presentation are also just as important. Marburger [16] points out in his research that 'Students who were absent during a class period were 9 to 14 percent more likely to respond incorrectly to a question pertaining to material covered in their absences than were students who were present.' Despite other research, e.g. Muir [13], Bowen et al [17], that indicates this tendency for better attendance to equate to better results, that fact cannot be ascertained in this instance. The non-attendance of students was a surprise and completely unforeseen. However, as indicated in the next section, measures were put in place in an effort to deal with these issues on the second cycle.

#### **4 SECOND CYCLE**

After reflecting upon the usefulness of the first booklet with its advantages and disadvantages a new direction was agreed upon for the next group of apprentices. Beginning the action research cycle again the existing booklets and presentation were modified and moved in a new direction [2]. In an effort to counteract the apathy previously experienced it was decided to leave out some text in the booklet. In place of the missing text was a continuous line to indicate where some text was missing. The absence of the text was completely random and followed no pattern. On the PowerPoint presentation the missing text areas were highlighted with red typeface. It was anticipated that this would stop the group from switching off during class. Question papers written by the lecturers were also included in the booklet as revision aides. These papers covered every topic in the booklet in great detail. Also included were

crosswords and word finders. Time was provided in the lecture for these exercises to be done. It was hoped that by making the lecture more interesting and varied the previous absenteeism could be reduced and learning improved.

A criticism from the previous group was that the presentation was overloaded with text and no visuals. On the second cycle more pictures and visual stimulus were incorporated. The booklet now ran to over sixty pages with the addition of blank areas to write in the missing text and the revision papers. As the painting and decorating trade is a very colour orientated and visual trade it was discussed as to the viability of getting the booklets printed in colour. If this was to be done then the students would have to carry the cost. The group were canvassed regarding this and there was a one hundred percent take up with no dissenting voices. The booklets were subsequently printed in colour and the students paid for the printing.

## **5 SECOND CYCLE EVALUATION**

It was known from the previous cycle that the module would be covered in time for the exam. Knowing this meant that the class could be structured differently. The theory was not simply delivered while allowing the student to fill in the blank spaces. Two thirds of the time was spent on delivering the theory while the last one third was spent in a question and answer session. An attempt was made to actively engage the group with the material. The lecturer's experience of the content was talked about and expanded on. It was noticeable that the storytelling element seemed to resonate with the group. Working with a group of sixteen meant this never got out of control. This method was different to the pre-booklet classes. The extra time now available made this kind of interaction possible with the group whereas it was not possible previously. There was still an element of absenteeism in the theory classes but not as bad as with the previous booklet.

The same questionnaires were administered to the second group. The modified booklets proved very successful. Generally the feedback indicated that there was very little time to switch off during the theory class. This is similar to what Smyth [18] found in her research. Again there was overwhelming support from the group for the idea of the booklets. After the exams there were complaints regarding the cost of the booklets. With the benefit of hindsight some students concluded they would not have had too much difficulty passing the test without the booklet and that the booklet was not needed. This would seem to validate the assumption that assessment was driving learning as the booklet covered more than just the

questions on the test. This was not seen as valuable by some students once they realised this. The value they ascribed to the booklet was in its ability to help them pass the test. For some students, retrospectively, any contribution the booklet may have made was not judged positively.

## **6 CONCLUSION**

One of the aspirations of the action research cycle was to provide time for students to engage in a reflective practice in an effort to manoeuvre them towards a deep approach to learning. It has been pointed out [18] that trying to cover too much content is detrimental to reflective practice. With more time available in the theory classes the next part of the action research project will be to develop class strategies to facilitate reflection and possibly move towards a deep approach to learning. Teacher led activities and greater student participation will be two ways in which deep learning can be enhanced [20]. Engaging in an action reflection cycle has proven beneficial for the students and also the lecturers. The adoption of a different strategy for teaching was intimidating and potentially risky. The outcome has surpassed expectations with positive feedback on the concept of the evolution of the lecture format. As Guskey [8] points out, practices that work in helping to achieve what students desire, in this case to revise and prepare for the exams, will be retained. The current practice outlined in this paper will be retained. It is intended to continue working with an action research model. There are plans in place to develop similar booklets for the other three subject modules. As stated above there is a concern regarding the level of learning the students engage in. the highly pressurised time element of the course meant that a surface approach may have been the only option to the students in order to achieve the results required to advance. The delivery of the course notes is now more efficient leaving more time for revision and exam preparation. It must be pointed out that a surplus of study time does not equal academic success [14]. However there is now an option to use the available time more constructively and to possibly enhance the learning of the students.

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