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3. Teaching Cycle 1

TEACHING CYCLE 1: FORMATIVE ASSESSMENT

A Report Illustrating The Use Of Formative Assessment To Develop Education Students' Confidence And Knowledge Of Psychology
**Executive Summary**

This report describes the process of using formative assessment exercises throughout a level three undergraduate psychology module in the School of Education and Lifelong Learning, University of Wales Aberystwyth. Such an intervention was implemented with the principle aim of developing students' confidence and understanding. Comprehensive feedback via oral and written comments was provided to the students following the completion of each formative exercise. The findings suggest that this type of assessment has benefits to students' learning but this was particularly noticeable during examination preparation. Formative assessment also provided a valuable tool for the lecturer's own professional development, as teaching methods could be reflected upon and students' learning monitored.

1. **Introduction**

The aims of this report are to illustrate the processes required in implementing formative assessment throughout an undergraduate education module and to consider and reflect upon the results of such an intervention.

1.1 **Brief History of the Psychology of Learning and Thinking Module**

The Psychology of Learning and Thinking is a compulsory level three module for all Education undergraduates in the School of Education and Lifelong Learning. The module has a level one course 'Child Development' as a pre-requisite. The module introduces and examines the theories of Piaget, Vygotsky, Bruner and Skinner, as well as considering concepts relating to intellectual development, adolescence and gender identity.
1.2 Organisational Structure of the Psychology of Learning and Thinking Module

The module comprises ten weekly lectures and ten weekly seminars. The seminars follow on immediately from the lecture. Therefore a two-hour slot is allocated once a week, with this slot being divided into a lecture and then a workshop/seminar session. The module is assessed using summative methods focussing on a 2500 word essay worth 50% and a three-hour examination worth 50%. This year (2005/06) 35 undergraduates studied the module.

1.3 Rationale for Change

As mentioned in the previous sub-section, students are assessed by one essay and one examination. The intended outcomes for implementing formative assessment were based upon providing students not only with indicators of their ability but to also identify weaknesses and problem areas prior to the assessments, thereby increasing their confidence of not only the subject matter but also of the assessments. The use of formative assessment was consequently seen as a two way process of informing both the students and the lecturer of problem areas prior to the assessed work. This would then, hopefully, allow both the lecturer and students to identify and clarify any problems prior to the summative assessment taking place.

1.4 Brief Review of the Literature

Recent research studies (see Taras, 2005 for example) have highlighted the emphasis on formative assessment not only in higher education but across all educational stages and Threlfall (2005: 54) explains that,

"formative assessment may be defined as the use of assessment judgements about capacities or competences to promote the further learning of the person who has been assessed."
Summative assessments, on the other hand, require a judgement to be made, where the judgement is seen as a finality (Taras, 2005).

It appears that, despite the concept of formative assessment being around for a while, it was the National Curriculum Task Group on Assessment and Testing (1988) that promoted formative assessment, as they talked about ‘feedback’ (Smith & Gorad, 2005; Threlfall, 2005). Taras (2005) explains that for formative assessment, feedback must be given which highlights a zone between the potential level of the work and the actual level and that an indication of how the work can be improved is always necessary. Higgins, Hartley & Skelton (2002: 54), whilst discussing feedback, suggest that for formative assessment to be successful, the feedback provided must "connect" with students. Taras (2005: 470) conveniently calls this "formative feedback".

In their study of feedback provided by two higher education institutions, Higgins et al. (2002) found that students had negative perceptions of feedback if it was too impersonal, too general or too vague. However, the researchers also point out that feedback is a two way process and that "formative feedback comments can only be effective if students read and make use of them" (Higgins et al., 2002: 57). They also suggest, based on this comparative study, comments need to be returned to students as soon as possible (Higgins et al., 2002). Threlfall (2005) expands upon this by explaining that it is of utmost importance for the teacher to review and consider the formative assessment results and address any issues.

This brief review of the current literature highlights that formative assessment is quite complex and in order for it to be effective, substantial preparation is required. Nevertheless, Higgins et al. (2002: 62) state that "despite barriers to its use, the potential for formative feedback to improve student learning remains".
2. The Teaching Cycle

2.1 Planning, Structuring and Implementing the Exercises

During the preparation of the module, a number of formative assessment exercises were incorporated into the workshop sessions. These included tests, revision worksheets, comprehensions, matching phrases worksheets, quizzes and crosswords. Examples of these can be found in appendix 4.

All of the revision worksheets were collected in for marking and returned to the Undergraduate Office for collection by the next day, thereby responding to the point made by Higgins et al. (2002) discussed previously. The feedback provided on these worksheets had the principle aim of highlighting errors in an encouraging and positive manner (Taras, 2005). Students were always offered praise where appropriate and encouraged to seek further guidance if still uncertain.

As mentioned previously, the exercises were prepared prior to the commencement of the module but it was not uncommon to have to refresh or amend some of the planned exercises in light of previous tasks, therefore supporting Threlfall (2005). If uncertainties were evident these were addressed in the next session (see example of this given later).

2.2 Gathering Evidence as a Method of Evaluating the Intervention

The following approaches, both formal and informal, were utilised in order to evaluate the use of formative assessment.

Formal Approaches

- Confidence questionnaires on lecture topics (administered in lectures 1 and 10)
- Confidence questionnaire on assignment (administered in lectures 2 and 5)
• Confidence questionnaire on examination (administered in lectures 2 and 10)
• Students' suggestions for module improvement
• Module evaluation forms

Informal Approaches

• Talking with students before lecture
• Talking with students during personal tutor meetings
• Perception of lecture atmosphere

2.3 Limitations

o Other factors may have influenced the confidence questionnaires
o Informal approaches may not be strictly representative of all students
o Increase in marking

3. Interpretation and Analysis of Feedback

3.1 Confidence Questionnaires

The questionnaires relating to students' confidence about the topics to be covered, administered in lectures 1 and 10, illustrated a general increase in students' confidence (see appendix 5 for tables), therefore supporting the intended outcome. This could therefore suggest that formative assessment did increase confidence. However, it is acknowledged that, as noted previously, other factors may also have played a part in these results.

3.2 The Assignment Questionnaires

The results for this questionnaire did not change significantly from lecture 2 to lecture 5 (see appendix 6). However, in answer to the question, 'do you think the use
of revision exercises will help with the assignment?’, 83% (n=29) of the students stated ‘yes’. During lecture 5, 80% (n=24) of the students indicated that the revision exercises had helped with the assignment, hence highlighting the benefits of formative assessment and meeting the intended outcomes.

3.3 The Examination Questionnaire

The results for this questionnaire illustrated a general trend of increased confidence (see appendix 7). All of the students in lecture 10 stated that the revision exercises had helped with the examination and 93% (n=25) suggested that the quizzes helped them to remember information. One student added that he would like, ‘a test and revision exercise in all seminars to learn as we go along’.

4. Reflection

The use of formative assessment throughout this module allowed reflection on students’ understanding by both students and lecturer prior to the final assessments. This enabled teaching styles to be adapted to learning approaches and difficult areas to be re-visited. Therefore formative assessment involved a two-way process. For example, it was apparent during a revision exercise that a number of students did not fully understand Erikson's Theory of Adolescence. As the lecturer became aware of this during the marking of the formative assessment, the topic was revisited using other teaching methods in order to ensure understanding for the final examination. Had summative assessment only been used, such an opportunity would not have been available.

5. Conclusions and Evaluations

The overall conclusion is that formative assessment is a particularly useful tool in developing students’ understanding and allowing weaknesses to be identified prior
to the summative assessments, therefore concluding that the intended outcomes for this intervention were met. Formative assessment allows the lecturer to reflect upon teaching methods and address topics that may have not been understood fully. The potential benefits of this type of assessment are great but appear to be of most use to students during examination preparation.

Despite an extra workload in the form of marking, this type of assessment was useful to both students and lecturer. It is necessary, however, for feedback to be immediate and mistakes corrected positively. The exercises are still fresh in the students’ minds and they can amend errors quickly.

6. Recommendations for Future Practice

- Use some form of formative assessment throughout all modules
- Explore the use of peer feedback by initially attending continuous professional development workshops on this.
- Wider variety and more extensive use of formative assessment - for example, practice examination questions.