

A Holistic Approach to Curriculum Design – an example from dietetic practice education

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Introduction

Practice Education is an integral component of all student dietitians' academic programme. This paper outlines how a holistic, situational model of curriculum design was used to redesign a two-week clinical placement module to facilitate application of theory and development of core professional attributes based on pre-existing learning outcomes. This module is currently a core professional development module for all Human Nutrition and Dietetics BSc and PGDip students. For the purpose of this paper, the current module will be referred to as Placement A and the redesigned module will be referred to as Placement I.

Context

This project was driven by several factors. In 2005, responsibility for the curriculum overseeing pre-registration and training of dietitians was transferred from the Health Professions Council (HPC) to the professional association for Dietitians, the BDA. This curriculum oversight transfer prompted development of a new 'Curriculum Framework for the Pre-Registration Education and Training of Dietitians' (BDA, 2008). Due to this new curriculum and pre-existing HPC and Quality Assurance Agency (QAA) guidance (HPC, 2009 & QAA, accessed 9/11/2010) both BSc and PGDip Human Nutrition and Dietetic programmes offered by London Metropolitan University are being redesigned and revalidated, providing a unique opportunity to review structure, learning outcomes, learning opportunities and assessment of placement modules.

A further driver for change was the adoption of the Nutrition and Dietetic Care Process (BDA, 2009) which has played a key role in informing delivery of theoretical teaching of dietetic management of disease but has not been explicitly adopted by clinical placement providers as a clinical teaching framework. It was hoped that incorporating this framework into learning outcomes, learning opportunities and assessment of this module would support integration of theory and practice and enhance overall academic performance.

Other contextual factors that needed to be considered included the range of pre-existing knowledge and skills of students completing the module. This module is also delivered in varying settings by large numbers of Practice Educators with varying experience in facilitating clinical training. It was also essential to consider how this module supported students in developing graduate attributes (BDA, 2008) in line with London Metropolitan University's commitment to supporting their students to build rewarding careers (London Metropolitan University, 2010a). The module therefore needed to be flexible, to fit the differing student and placement profiles.

Approach

The starting point in redesigning this module was a set of predefined learning outcomes, developed collaboratively with key stakeholders to incorporate the Dietetic Care Process framework (BDA, 2009). After considering a number of models of curriculum design I chose to adopt a situational model put forward by Prideaux (2003), (acknowledging the work of Malcolm Skilbeck) This model is descriptive, defining curriculum designers' role and what the curriculum covers. It also considers how placement environment affects curriculum activities. All of the curriculum design elements are linked, with students' experience central to the process.

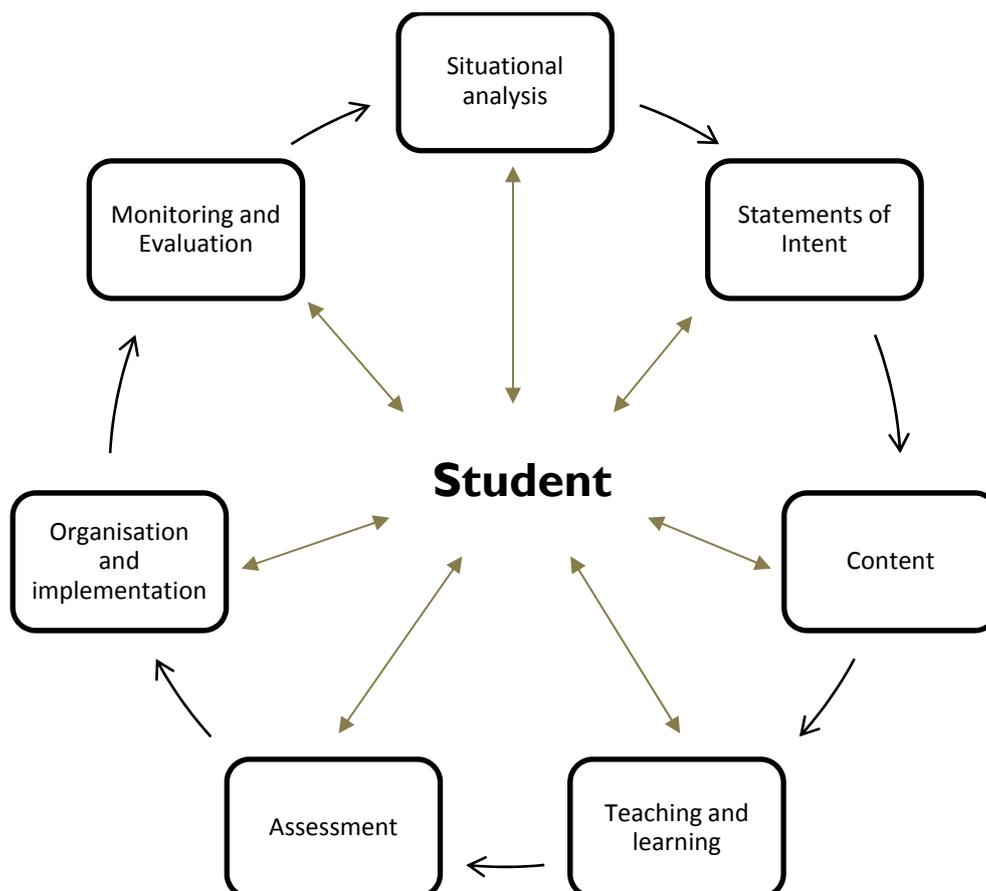


Figure 1 – A descriptive curriculum map adopted from Prideaux (2003)

Discussion

To ensure a holistic approach to this curriculum design, each aspect of Prideaux's situational model was considered in turn.

Situational analysis

Prideaux (2003) recognised that the design process could start at any stage of the cycle. However, he also acknowledged that the design process' context significantly impacts the approach taken. When undertaking situational analysis, Reynolds and Skilbeck (1976, cited in Prideaux, 2003) suggest several external and internal factors to consider. Among external factors are employers' expectations and the nature of the subject discipline while internal factors include students, teachers and existing curriculum shortcomings.

Extensive feedback and opinion has been sought from various key external stakeholders throughout this process including external examiners, clinical Practice Educators and the London Dietetic Mangers Group who will be employing future graduates. Student feedback was collated through an online survey to ascertain expectations prior to the module, perceived preparation for the module, experiences on placement and opinions as to how the module could be developed. Key findings included varied expectations prior to placement and limited engagement with the assessment processes integral to the module. 33% of students surveyed also reported that they had received no developmental feedback during their placement and none of the students were able to identify appropriate action points to be implemented prior to a future placement. These results highlighted the importance of ensuring that the aims of placement are clear and appropriately articulated, assessment processes are engaging and supportive and training is provided to practice educators in giving developmental feedback.

Statements of intent

As introduced previously, several predefined learning outcomes have been developed collaboratively with key stakeholders to incorporate the framework of the Dietetic Care Process. These learning outcomes reflect the first stage of a progression in learning across three postgraduate course placement modules developed in line with Blooms Taxonomy of Educational Objectives (1979, cited in Fry et al. 2009), considering the six levels of cognitive ability. These learning outcomes do not consider the affective and psychomotor domains described by Bloom, however, the development of attitudes, emotions, and feelings, behaviour and skills are as foundational as the application of knowledge to dietetic practice. In light of this, it may be appropriate to consider widening the scope of learning outcomes when considering outcomes relating to specific teaching events in contrast to outcomes relating to the overarching module, a distinction adopted by Hussey and Smith (2008).

Hussey and Smith (2003) have also explored the concept of intended and emergent learning outcomes. Adopting a principle initially proposed by Megginson (1994 & 1996 cited in Hussey and Smith, 2003) they suggested that the greater the extent to which learners are allowed to contribute to the learning process, the greater the possibility for emergent learning to occur. The authors also suggest that while some emergent learning may contribute directly to achieving intended learning outcomes, other opportunities for emergent learning contribute more widely to students' professional development. To capture emergent learning opportunities, dietitians need to develop their ability to reflect in action in their role as Practice Educators, a key training need that needed to be explored further.

Content

The Nutrition and Dietetic Care Process provides an overarching framework for course objectives as well as academic modules and placement learning objectives. The Nutrition and Dietetic Care Process and Model (NDCPM) (BDA 2009) was adapted from the Nutrition Care Process and Model (NCPM), published by the American Dietetic Association (Lacey and Pritchett, 2003). The BDA adopted the NDCPM as it highlights the specific knowledge and skills and critical thinking which are fundamental to dietetic practice. Pender (2008) also suggests that the use of a logic stepwise approach to clinical decision making supports students in developing consistent practice.

A key challenge of adopting such a process to inform content of both academic and placement modules is ensuring all academic staff and Practice Educators are familiar with the process and competent in using it explicitly to support student training. A recent informal BDA survey (2011) highlighted that some practice educators recognise this model's value and adopt it, some ignore it, and some adopt a different process. This highlights a further important training need that must be addressed prior to implementation of this new placement module.

Teaching and learning

Placement I offers students' unique opportunities to learn how to apply knowledge gained in academic study in clinical settings. Teaching and learning strategies employed are therefore crucial, not only to the outcome of this module but also to students' future practice and employability.

An emerging area of interest in clinical education is the use of e-portfolios to promote learning and teaching. An overview of e-portfolios published by the Joint Information Systems Committee (JISC, 2010) suggests they can facilitate deeper learning. An earlier report published by JISC (2008) proposed a model for e-portfolio based learning that had its foundation in Kolb's experiential learning cycle –

a key descriptive model that has informed adult education for many years (Figure 2 below).



Figure 2 – A model of e-portfolio based learning, adapted from Kolb (1984), taken from JISC (2008)

BECTA (2007) suggests that e-portfolios can be used to support students with a wide range of abilities to meet the learning outcomes. This is particularly significant in an institution such as London Metropolitan University where a core purpose is to provide quality learning opportunities for students from highly diverse backgrounds (London Metropolitan University, 2010b). In relation to the impact of e-portfolios on the learning process, BECTA (2007) also highlight that use of structured software within e-portfolios provides students with a framework for their learning, acting as a stepping-stone in development from dependent to independent learning. E-portfolios may also promote the capturing of both intended and emergent learning and would be a valuable tool to adopt as part of this redesigned placement module.

Assessment

The situational analysis discussed earlier suggests that students completing Placement A have not engaged with assessment processes previously employed. Gibbs and Simpson (2004) have suggested that ‘there is more leverage to improve teaching through changing assessment than there is in changing anything else’. Sadler (1989) also proposes that assessment processes can be used for learning as well as learning assessment. The Centre for Excellence in Teaching and Learning for Assessment for Learning (CETL AfL) has proposed six principles for assessment for learning which are outlined in Figure 3 below.



Figure 3: Six principles for assessment for learning (taken from CETL AfL, 2010)

Boud and Falchikov (1989) also propose that self-assessment skills are central to development of autonomous professionals, committed to continuing professional development. Placement I therefore provides numerous formal and informal opportunities for formative feedback. The summative assessment of this module also includes an individual reflective piece that will encourage students to self-assess their learning over the two week placement and identify action points to be implemented prior to future placement experiences.

As well as facilitating learning, e-portfolios will also facilitate assessment of key professional practice skills (Gibbon and Dearnley, 2010). JISC (2010) highlight that e-portfolios encourage learners' engagement in regular self-assessment. The Qualifications and Curriculum Authority (QCA, 2007) highlight results of a survey of City and Guild institutions into use of e-portfolios which found that 95% of centres reported advantages of e-portfolios that included improved assessment turnaround time, increased student motivation and improved consistency of quality assessment and positive financial implications. A number of challenges of using e-portfolios for assessment also exist including engaging and training staff and students in the use of e-portfolios (QCA, 2007). However, despite these issues, the literature supports that the benefits of using e-portfolios in assessment outweigh the challenges and consequently, the implementation of this tool should be considered in the implementation of the redesigned module.

Organisation and implementation

Toohy (1999) proposes a four-step approach to new curriculum implementation that encompasses ascertaining implications of change to all stakeholders – a key

focus of this project, supporting development of new skills in staff delivering the new curriculum, supporting students to adjust to the new curriculum and evaluating progress.

A number of Practice Educator training needs have been highlighted throughout the redesign process. These include enabling placement facilitators to reflect in action to support students to capture emergent as well as intended learning opportunities and supporting Practice Educators in use of technology, specifically e-portfolios to support learning and assessment processes. The importance of all staff engaged with clinical placement provision understanding the NDCPM has also been highlighted. These training needs will be addressed through various means including University-based workshops, local training, online support using e-learning packages and one-to-one support.

Consideration of how the processes employed to facilitate this curriculum redesign will interact is also helpful. Table 1 provides an alignment matrix, adapted from Cowan et al (2004) to identify the process of aligning a specific statement of intent with content, learning and teaching strategies and subsequent assessment.

Statement of intent	Content	Learning and teaching strategy	Assessment strategy
<p>LO3:</p> <p>Demonstrate appropriate skills in gathering information from a range of appropriate sources</p>	<p>Aspects relating to the first stage of the NDCPM – assessing the need including the collection and interpretation of:</p> <ul style="list-style-type: none"> • Anthropometric data • Biochemical data • Clinical data • Dietary data • Economic data 	<p>Observation of Dietitian and reflective feedback conversation</p> <p>Practicing assessment skills with peer and peer feedback</p> <p>Use of e-portfolio to provide a framework for reflective practice and self-assessment and the development of on-going learning contracts</p>	<p>Observation of student completing aspects of the assessment process to be undertaken by practice educator and recorded in e-portfolio</p> <p>Evidence of reflective practice to be collated in e-portfolio</p>

Table 1: An alignment matrix for Placement 1: Learning Outcome 3

Monitoring and evaluation

Although evaluation was not the main focus of this redesign project, Prideaux (2003) highlights that it is crucial that this component of curriculum design is not neglected. The undertaking of a much more comprehensive summative evaluation of the redesigned module using an evaluation cycle such as that presented by Griffiths (2011) is essential as the final stage of this cyclical process to inform future module development in combination with formative evaluation and development throughout module delivery.

Conclusion

This paper has reviewed a holistic module redesign process utilising established and emerging pedagogical principles relating to curriculum design, teaching, learning and assessment in conjunction with discipline specific frameworks. Key issues arising from the redesign process have been discussed and practical strategies have been proposed to address these challenges as part of the holistic process. It is hoped that this will deliver a placement module that equips graduates to meet the demands of a future dietetics career.

References

- BECTA (2007) Impact study of e-portfolios on learning. Available at: http://webarchive.nationalarchives.gov.uk/20110130111510/http://research.becta.org.uk/index.php?section=rh&catcode=_re_rp_02&rid=14007 (Accessed online 16/3/11)
- Biggs, J. (2003) Aligning teaching and assessment to curriculum objectives. *LTSN Generic Centre: Learning and Teaching Support Network*
- British Dietetic Association (2008) Curriculum Framework for the Pre-Registration Education and Training of Dietitians. Available at: www.bda.uk.com
- British Dietetic Association (2009) Nutrition and Dietetic Care process. Available at: www.bda.uk.com
- British Dietetic Association (2011) Proposal for review and relaunch of the Nutrition and Dietetic care process and model. Personal email communication.
- Cowan, J., George, J.W., Pinheiro-Torres, A. (2004) Alignment of developments in higher education. *Higher Education* 48: 439-459
- Fry H., Ketteridge S., Marshall S. (2009) *A Handbook for Teaching and Learning in Higher Education – Enhancing Academic Practice*. Third Edition. Routledge, London.
- Gibbon, C. and Dearnley, C. (2010) Increasing Student Engagement with Feedback. In Hammick, M. and Reid, C. (2010) *Contemporary issues in assessment in health sciences and practice education*. The Higher Education Academy Health Science and Practice, pp. 73 – 92.
- Gibbs, G. and Simpson, C. (2004) Conditions under which assessment supports learning. *Learning and Teaching in Higher Education* 1(1): 3-31
- Griffiths, D. (2010) A generic evaluation cycle. Available at: <http://weblearn.londonmet.ac.uk/webct/urw/lc4130011.tp0/cobaltMainFrame.dowe bct> (Accessed online: 16/3/2011)
- Health Professions Council (2006) Your guide to our standards for continuing professional development
- Health Professions Council (2009) Standards for Education and Training
- Hussey, T. and Smith, P. (2003) The Uses of Learning Outcomes. *Teaching in Higher Education* 8:3, 357-368

Hussey, T. and Smith, P. (2008) Learning outcomes: a conceptual analysis. *Teaching in Higher Education* 13:1, 107-115

JISC (2007) Guidance on the implementation of e-portfolios. Available at: <http://www.jisc.ac.uk/whatwedo/programmes/elearning/eportfolios/resources.aspx> (Accessed online: 16/3/2011)

JISC (2008) Effective Practice with e-Portfolios. Available at: <http://www.jisc.ac.uk/whatwedo/programmes/elearning/eportfolios/effectivepracticeeportfolios> (Accessed online: 16/3/2011)

JISC (2010) Effective Assessment in a Digital Age: A guide to technology enhanced assessment and feedback. Available at: http://www.jisc.ac.uk/media/documents/programmes/elearning/digiassass_eada.pdf (Accessed online: 16/3/2011)

London Metropolitan University (2010a) Employability and careers. Available online at www.londonmet.ac.uk/about/employability/ (Accessed online: 2/3/2011)

London Metropolitan University (2010b) Strategic Plan 2010/2013: Transforming Lives, Meeting Needs, Building Careers. Available at: <http://www.londonmet.ac.uk/about/mission.cfm> (Accessed online: 16/3/2011)

Pender, Dr F. (2008) *Clinical Cases in Dietetics*. Oxford: Blackwell

Prideaux, D. (2003) ABC of learning and teaching in medicine – Curriculum design. *British Medical Journal* 326: 268-270

Qualifications and Curriculum Authority - QCA (2007) e-Assessment –guide to effective practice. Available online at: <http://toolkit.efutures.org/resources/> (Accessed online: 26/2/2011)

Quality Assurance Agency. Subject Benchmark Statements. Health Care Programmes: Dietetics. Available at: <http://www.qaa.ac.uk/academicinfrastructure/benchmark/health/Dietetics-final.asp>. (Accessed online: 9/11/2010)

Sadler, D.R. (1989) Formative assessment and the design of instructional systems. *Instructional Science* 18(2):119-144

Toohy, S. (1999) *Designing Courses for Higher Education*. The Society for Research in Higher Education and Open University Press.

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