Anonymous Manuscript

Abstract

Innovative assessment methods in which students are active participants promote deeper learning. A group debate and a webfolio were implemented as methods of assessment in the 2015 undergraduate midwifery curriculum, with the assessment tools being evaluated by students. Thematic analysis of the evaluations showed students enjoyed undertaking innovative methods of assessment, they developed confidence and engaged meaningfully with the content to be assessed. Students also commented they developed multiple skills required for future professional practice as a midwife. Thorough preparation of students to undertake an innovative method of assessment however is vital in fostering student confidence.

Keywords

Introduction and Background

This article will explore innovation in assessment and discuss the importance of preparing students to undertake non-conventional methods of assessment. Traditional methods of assessment in higher education, such as examinations and essays still dominate the majority of curricula (Struyven, Dochy and Janssens, 2005; Peireira et al, 2015), yet have been criticised in the literature (Sambell, McDowell & Brown 1997; Scouller, 1998; Medland 2014). Sambell, McDowell and Brown (1997) report that students have a negative opinion about conventional assessment methods, going so far as to suggest they negatively

affect the learning process. Furthermore, Medland (2014) recommends higher education assessment systems move away from the testing culture, where students merely 'learn to pass', towards an assessment culture where students 'learn to learn'. Medland (2014) proposes this assessment culture can be fostered by the implementation of varied and innovative methods of assessment, in which students are active participants.

Assessment undoubtedly provokes more student anxiety than any other feature of higher education as students generally wish to perform well and meet the assessment criteria (Bryan and Clegg, 2006). Student perception of, and reaction to the transition from conventional to innovative assessment strategies are also arguably affected by the way in which the assessment is introduced (Brown, 2003; Glasner, 2003). Turner et al (2013) and Bryan and Clegg (2006) identified that when faced with innovative methods of assessment, student anxieties are heightened. Therefore when implementing innovative methods, institutional support, reflection and mentoring are key in preparing students for the assessment and thereby developing student confidence (Epstein and Hundert, 2002). Students should be active partners in the development of new methods of assessment and their evaluation is critical for continuous improvement (Reece and Walker, 2007; Biggs, 2011).

Two innovative methods of assessment were introduced in the 2015 undergraduate midwifery curriculum, and these will be discussed alongside student preparation and confidence. A group debate was implemented with first year students and the feedback from students undertaking this assessment will be explored. The use of a webfolio was piloted for use with third year midwifery students and the results of this pilot will also be presented. The importance of

building student confidence to undertake an unfamiliar method of assessment by thorough preparation will be discussed throughout.

Evaluation of innovative assessment tools in undergraduate midwifery education

Debate

Group debates have been used, predominantly as a teaching method, in various disciplines (Doody and Condon, 2012); however, they have not been widely used in healthcare education as a method of assessment and are under-reported, particularly in midwifery education literature. Group debates are therefore innovative and require careful student preparation. Group debate was selected as a method of assessment within the undergraduate midwifery curriculum to develop skills of critical thinking, gathering, analysing and synthesising data to form arguments, fostering an appreciation of opposing viewpoints and persuasion; in addition, skills of teamwork, citizenship, co-operation, organisation and presentation were also promoted (Doody and Condon, 2012; Education World, 2015)

Interestingly, these skills, whilst being inherent to debating are also required by midwifery students to function effectively as members of a wider health care team (Epstein and Hundert, 2002), where critical analysis and evaluation of a clinical situation to facilitate diagnosis and management are paramount. Pedagogically, this ability mirrors Bloom's (1956) Taxonomy, in particular encouraging students to develop the higher cognitive skills of analysis, synthesis and evaluation (Doody and Condon, 2012). Midwives need to advocate for

women's choices (Lucas, 2011) and therefore are also required to foster an appreciation of opposing viewpoints. Thus the group debate, whilst being a method of assessment also equips students with skills required for the 'real world' of midwifery (Dijkstra et al., 2016). Additionally, Huxham et al. (2012) compared students' performance in both written and oral assessments. They found students performed better in oral assessments, and that despite initial anxieties, oral methods acted as a powerful tool in helping students develop professional identity. Furthermore, Orr (2010) reports that students value the opportunity for group work as this is seen as authentic and effective preparation for life after graduation.

The format of the debate fosters the development of these 'real life' skills and was decided upon based on the recommendations of the available literature (Chan, 2009; Doody and Condon, 2012). Students in their first year choose their own teams to enable them to feel comfortable within their groups and thus develop confidence. The motions for debate reflect the module learning outcomes, in keeping with the principles of constructive alignment (Biggs, 2011), and the topics studied as part of the module. The motions are contentious statements and thus debatable. Students are allocated the debate motions and whether they are arguing 'for' the motion (ie agreeing with the statement) or 'against' the motion (ie they oppose it), and thus are often required to argue the motion from a viewpoint not naturally held. This encourages critical and abstract thinking and develops advocacy skills (Doody and Condon, 2012).

As previously discussed, preparation for any assessment is crucial, particularly with innovative methods (Epstein and Hundert, 2002). Moreover, an assessment method that requires public speaking may present a further

challenge to some students (Chan, 2009; Huxham et al., 2012; Turner et al., 2013). Students are thoroughly prepared at the beginning of the module, with the purpose of the debate and the roles and responsibilities clearly defined and provided in documented form for student reference. Students are made aware of assessment criteria and also have the opportunity to participate in a formative group debate so they can visualise a debate 'in action,' to assist with their development and to build confidence. Tutorial support and allocated preparation time within the module are also provided.

Ground rules and format are key to the success and flow of the debate and these are discussed at length. Students are prepared to present their arguments and rebuttals with guidelines provided on technique and structure to ensure the debate remains professional and related to the topic (Chan, 2009).

With any innovation, evaluation of the assessment tool is vital (Reece and Walker, 2007) as is eliciting student feedback on the effectiveness of preparation and implementation. A questionnaire was devised to collect both quantitative data and qualitative comments, and was completed by 111 students from 3 concurrent cohorts. The results of the quantitative data (Table 1) show that 93% of students felt well prepared for the debate and 87% felt the assessment guidelines were clear. 93% of students stated they learned new skills to take forward to subsequent years and more importantly into midwifery practice. 91% agreed they enjoyed working as part of a team.

Thematic analysis of the qualitative data was undertaken with the main themes emerging as follows:

Theme 1 – the debate improved student's confidence, particularly in public speaking, despite being initially daunting. Many students commented that

although they felt extremely anxious prior to the assessment, once completed they felt a great sense of personal and team pride.

Theme 2 – the debate promoted development of multiple skills. Students commented that they learned the skills necessary to work well within a team, and found the peer support both invaluable and uplifting. Students stated they developed skills in critical thinking, researching, analysing and synthesising information into a concise argument, public speaking, communication skills, negotiation skills and working under pressure.

Theme 3 – students enjoyed exploring topics from a viewpoint they naturally opposed which encouraged them to explore topics from different perspectives.

Theme 4 –students enjoyed participating in a method of assessment that was innovative and gave the opportunity to demonstrate other skills, not just the ability to write academically.

Overall the group debate has proved to be an effective and empowering innovative method of assessment.

Table 1: Student evaluation of the debate as an assessment tool

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A
I was well prepared for the group debate	50	53	6	-	2	
The assessment guidelines were clear	57	40	11	3	-	
I have learned new skills to take forward into year 2	65	38	4	3	1	
I have learned new skills to take forward into midwifery practice	60	42	5	2	2	
I enjoyed working as part of a team	68	33	8	2	-	
I was able to negotiate my role within the team	60	40	7	3	1	
TOTAL	360	246	41	13	6	

Webfolio

Within Higher Education in the last decade there have been significant changes in portfolio pedagogy, with a progression from traditional paper portfolios to electronic portfolio systems, such as an eportfolio or webfolio. Ogan-Bekiroglu and Gunay (2008) describe a portfolio as a systematic process of collecting and evaluating the end products of student learning. Consistent with a social constructivist pedagogical foundation (Anderson and Dron, 2011) the webfolio encourages an active learner-centred experience, whereby new knowledge builds on the foundation of previous knowledge and is subject to social discussion, validation and application in real world contexts (Honebein, 1996; Kanuka and Anderson, 1999). The webfolio allows for the creative design of assessment within a balanced curriculum to help students understand and cultivate professional values and qualities (Chan, 2012; Huang et al., 2012; Green et al., 2014).

 The ability of the webfolio to support learning is therefore positively reported within the literature prompting many Universities delivering undergraduate programmes to consider portfolio use (Lombardi, 2008). As a result, portfolio usage has become increasingly popular within undergraduate nursing and midwifery education settings. The use of a webfolio as an assessment of learning in healthcare programmes is advocated as a way of assisting students to confront the conflicts between assessment preparation and continuous professional development. Despite this, student dissatisfaction has been noted regarding webfolio assessment due to lack of training and guidance (Garrett et al., 2013), uncertainty of purpose (Timmins and Dunne, 2009) and a lack of a common understanding for what a webfolio is (Barett and Carney, 2005).

In light of the mixed evidence surrounding webfolio assessment usage, a student evaluation was conducted exploring the pedagogical value of the webfolio for

final year undergraduate student midwives in evidencing learning in practice. More specifically, the evaluation explored the advantages of webfolio usage, versus traditional paper portfolios, in demonstrating the achievement of learning outcomes in clinical practice, and the development of reflective skills. This student evaluation formed part of a larger two phase pilot study. The first phase of the study was piloting the webfolio as a stand-alone assessment tool within the development of a new BSc Midwifery curriculum module, prior to formal use in 2018. The second phase involved follow-up focus groups with the students following webfolio completion.

For phase one of the pilot study, two concurrent cohorts of final year undergraduate student midwives undertaking an optional international placement were invited to take part in the project. Self-selecting and consenting students were provided with a cohort specific small group tutorial regarding the assessment strategy and the assessment requirements. Prior to embarking on their international placement, students were provided with theoretical and practical instruction on webfolio building, along with a written instruction booklet for use whilst on placement. Students were asked to build a webfolio, evidencing achievement of four set learning outcomes within the software platform of Pebblepad. Students were asked to demonstrate achievement of competencies set in their traditional paper portfolio in an additional form of a webfolio during their international placement, therefore providing a comparison in evidencing individual learning in practice. On completion of the webfolio in Pebblepad, all students were asked to share their completed webfolio with the project lead in order for the completed webfolios to be assessed formatively. On reviewing the completed webfolios, all students had evidenced successful achievement of learning outcomes in practice, and the innovative nature of the webfolio had

allowed for evidence and reflection to be demonstrated by creative and contemporary means.

On return to the UK, one focus group was conducted with each cohort of students. Focus groups facilitated exploration of the student practical experience of webfolio completion, and student perception of the impact of webfolio completion on student learning compared to paper portfolio completion. Focus groups, involving 8 students in total, were recorded and transcribed verbatim to facilitate thematic data analysis. Thematic analysis of focus group data revealed three main themes. Theme one was that, consistent with a social constructivist pedagogical foundation (Anderson and Dron, 2011), the wefolio encouraged an active and diverse learner-centred experience. Whilst the majority of students preferred webfolio completion, the minority of students who preferred traditional paper portfolio completion recognised that the webfolio was beneficial in encouraging adaptability in learning styles. Students embraced the ability to demonstrate learning outcomes and competency achievement in creative ways e.g photo, video, audio, websites, documents.

Theme two was that, freedom of completion both during and after placement facilitated both 'in-action' and 'on-action' reflection (Schon, 1991), in real time and in creative ways. This instant access to the webfolio and evidence building, either online through Pebblepad, or using the Pebblepocket app on a smartphone, allowed for reflection 'in the moment'. Students did however raise a professional issue relating to the use of a smartphone whilst on placement, which is a topic worthy of further exploration with the growing use of webfolio assessment. Theme three was that, the skill of developing a webfolio is a valuable professional skill in both reflective writing and portfolio development, both of which would be transferrable to continuing professional development

requirements. Students felt appropriately prepared for both reflective writing and webfolio development, and having utilised these skills, felt confident to use these skills in the future. The findings of this student evaluation therefore tentatively suggest that the webfolio for final year student midwives both tests and extends knowledge and skill and is therefore a valuable assessment strategy that promotes innovative learning.

Discussion

Whilst the debate and webfolio are very different forms of assessments, this student evaluation of both innovative assessment methods highlights that common themes can be drawn which promote the pedagogical value of innovative assessment usage in undergraduate education. Firstly, this evaluation highlights that both the debate and the webfolio as assessment methods successfully challenged students to perform outside of their preferred learning style. It is acknowledged that students are sometimes reticent towards innovative approaches, with students feeling more confident and reassured with conventional assessment strategies. By engagement with innovative assessment methods however, students have actively broadened their horizons to new ways of learning, and have successfully demonstrated knowledge and skill through an assessment method which they were initially reticent about. This appeared to positively influence the students' perception of, and attitudes towards, innovative assessment strategies.

Secondly, this evaluation highlights that both the debate and the webfolio as academic assessment methods have successfully assisted students in developing transferrable skills for midwifery. It is widely accepted that many

conventional assessment methods merely assist the student to perform for that particular assessment, with students having limited opportunity to demonstrate or develop wider transferable knowledge and skills outside of what the conventional assessment is testing (Race, 2003). Students were able to fully articulate the broad range of new skills they had developed as a result of engaging with the debate and webfolio as innovative assessment methods, appreciating how these skills were transferrable to their role as a midwife.

Finally, this evaluation highlights that student confidence and satisfaction with the debate and the webfolio as innovative assessment strategies was positively influenced by the preparation and support provided by the midwifery tutors. Innovation with assessment initially provoked anxiety amongst students, this was particularly heightened due to the assessments providing increased student freedom compared with conventional assessment strategies. During the planning stages, midwifery tutors were acutely aware that student perception of, and reaction to, a transition from conventional to innovative assessment methods are also arguably affected by the way in which the assessment is introduced (Brown, 2003; Glasner, 2003). Careful attention was paid to ensuring that students understood the requirements of the assessment, and the benefits of engaging with the assessment. Whilst many students were initially reticent, by fostering increased levels of student independence and responsibility with the debate and webfolio, student confidence and satisfaction with the innovative assessment methods was positively affected. Students felt they were adequately prepared for the assessment and in retrospect viewed innovative assessment positively. Findings of this evaluation therefore provide tentative reassurance of the pedagogical value of innovative assessment for undergraduate students undertaking the BSc Midwifery undergraduate programme.

Conclusion

This article has demonstrated that the use of a debate and a webfolio as methods of assessment facilitates the development of multiple transferrable skills for professional midwifery practice. Innovative assessment methods in which students are active participants promote deeper learning, however thorough preparation of students to undertake an innovative method of assessment is vital in fostering student confidence. Evaluation of innovative assessment methods is also important to ensure validity, reliability and quality. Students enjoy participating in innovative methods that facilitate creativity and allow them to demonstrate knowledge and skills through non-conventional methods and educators should strive to incorporate innovative assessment methods that foster a learning through assessment culture.

Key points (4-6 full sentences that summarise the major themes)

1. Innovative assessment methods in which students are active participants promotes deeper learning.
2. Thorough preparation of students to undertake an innovative method of assessment is vital in fostering student confidence.
3. Use of a debate and a webfolio as methods of assessment facilitates the development of multiple transferrable skills for professional midwifery practice.

4. Evaluation of innovative assessment methods is important to ensure validity, reliability and quality.

5. Students enjoy participating in innovative methods that facilitate creativity and allow them to demonstrate knowledge and skills through non-conventional methods.

Reflective questions

1. Are innovative assessment methods necessary and beneficial to student learning?

2. How can students be prepared to undertake innovative assessment methods?

3. How can innovative methods of assessment be evaluated?

4. What are the benefits of using a group debate as a method of assessment?

5. What are the benefits of using a webfolio as a method of assessment?

References

Anderson T, Dron J (2011) Three generations of distance education pedagogy. International Review of Research on Distance and Open Learning, 12(3): 80-97

Barrett H, Carney J (2005) Conflicting Paradigms and Competing Purposes in Electronic Portfolio Development. Educational Assessment 1: 1-14

Biggs J (2011) Teaching for Quality Learning at University. 4th Edn. McGraw-Hill Education, United Kingdom

Bloom B (1956) Taxonomy of Educational Objectives: The Classification of Educational Goals. Longman, New York

Brown S (2003) Institutional Strategies for Assessment In: Brown S, Glasner A, eds Assessment Matters in Higher Education. Open University Press, Buckingham

Bryan C, Clegg K (2006) Innovative Assessment in Higher Education. Routledge, London

Chan C (2009) Assessment: Debate, Assessment Resources@HKU, University of Hong Kong Available at [http://ar.cetl.hku.hk] Accessed: 18.11.15

Chan C (2012) Using the ePortfolio to Complement Standardized Testing in a Healthcare Professional Program: Better Education or More Busy Work? International Journal of ePortfolio 2(2): 149-162

Dijkstra J, Latijnhouwers M, Norbart A, Tio RA (2016) Assessing the 'I' in group work assessment: State of the art recommendations for practice. Medical Teacher 38(7): 675-682

Doody O, Condon M (2012) Increasing student involvement and learning through using debate as an assessment. Nurse Education in Practice. 12(4): 232-237

Education World (2015) It's Up for Debate. Available at www.educationworld.com/a_lesson/lesson/lesson304.shtml Accessed 18.11.2015

Epstein RM, Hundert EM (2002) Defining and Assessing Professional Competence JAMA 287(2): 226-235

Garrett B, MacPhee M, Jackson C (2013) Evaluation of an eportfolio for the assessment of clinical competence in a baccalaureate nursing program. Nurse Education Today 33: 1207-1213

Glasner (2003) Innovations in Student Assessment: A System-wide Perspective In: Brown S, Glasner A, eds Assessment Matters in Higher Education. Open University Press, Buckingham

Green J, Wyllie A, Jackson D (2014) Electronic portfolios in nursing education: A review of the literature. Nurse Education in Practice 14: 4-8

Huang A, Wub J, Yang S, Hwang W (2012) The success of ePortfolio-based programming learning style diagnosis: Exploring the role of a heuristic fuzzy knowledge fusion. Expert Systems with Applications 39: 8698–8706

Huxham M, Campbell F, Westwood J (2012) Oral versus written assessments: A Test of Student Performance and Attitudes. Assessment and Evaluation in Higher Education 37(1): 125-136

Kanuka H, Anderson T (1999). Using constructivism in technology-mediated learning: Constructing order out of the chaos in the literature. Radical Pedagogy, 2(1) Available at http://www.radicalpedagogy.org/radicalpedagogy/Using_Constructivism_in_Technology-

Mediated Learning Constructing Order out of the Chaos in the Literature.html Accessed 21.12.17

Lombardi J, (2008) To Portfolio or Not to Portfolio: Helpful or Hyped? College Teaching 56(1) doi.org/10.3200/CTCH.56.1.7-10

Lucas A (2011) Taking the Lead. Midwives. Issue 1, 1st February, 2011

Medland E (2014) Assessment in higher education: drivers, barriers and directions for change in the UK. Assessment and Evaluation in Higher Education 41(1): 81-96

Ogan-Bekiroglu F, Gunay A (2008) Physics students' perceptions on their journey through portfolio assessment. Paper presented at the Conference of Asian Science Education (CASE) cited in Timmins F, Dunn P (2009) An Exploration of the Current Use and Benefit of Nursing Student Portfolios. Nurse Education Today 29(3): 330-341.

Orr S (2010) Collaborating or Fighting for Marks? Students Experiences of Group Work Assessment in the Creative Arts. Assessment and Evaluation in Higher Education 35(3): 301-313

Pereira D, Flores MA, Niklasson L (2016) Assessment revisited: a review of research in *Assessment and Evaluation in Higher Education*. Assessment and Evaluation in Higher Education 41(7): 1008-1032

Race P, (2003) Why Assess Innovatively? In Brown S, Glasner A eds Assessment Matters in Higher Education. Open University Press, Buckingham

Reece I, Walker S (2007) Teaching, Training and Learning – A practical guide. 6th edn Business Education Publishers Limited, Sunderland

Sambell K, McDowell L, Brown S (1997) But Is It Fair? An Exploratory Study of Student Perceptions of the Consequential Validity of Assessment. Studies in Educational Evaluation 23(4): 349-371

Scouller K (1998) The influence of assessment methods on students' learning approaches: Multiple choice question examination versus assignment essay. Higher Education 35(4): 453-472

Struyven K, Dochy F, Janssens S (2005) Students Perceptions about Evaluation and Assessment in Higher Education: A Review 1. Assessment and Evaluation in Higher Education 30(4): 325-341

Timmins, F. Dunne, P. (2009) An exploration of the Current Use and Benefit of Nursing Student Portfolios. Nurse Education Today 29: 330-341

Turner K, Roberts L, Heal C, Wright L (2013) Oral presentation as a form of summative assessment in a Masters level PGCE Module: The Student perspective. Assessment and Evaluation in Higher Education 38(6): 662-673

Webber K (2012) The Use of Learner-Centred Assessment in US Colleges and Universities. Research in Higher Education 53(2): 201-228