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Short running: Clinical supervisors' attitudes to assessment

Title: Are dietetics educators' attitudes to assessment a barrier to expanding placement opportunities? Results of a Delphi study.

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Authorship

CP and SC designed the study and oversaw its implementation, data collection and analysis with support from SA, EB, HT and BJ. All authors contributed to drafting the manuscript and approve its contents.

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Abstract

Aim: Assessment of entry-level health professionals is complex, especially in the work-based setting, placing additional pressures on these learning environments. This study aimed to gain understanding and ideally consensus regarding the setting for assessment of all elements of competence for entry-level dietitians across Australia.

Methods: Seventy-five experienced academic and practitioner assessors were invited to participate in an online Delphi survey. The 166 entry-level performance criteria of the Competency Standards for dietitians formed the basis of the questions in the survey, with rating on which ones could be assessed in the practice setting, those which could be assessed in a classroom/university setting and which could be assessed in either setting. Forty-three of 75 invited assessors responded to the first round of the Delphi. A second modified survey was sent to the 43 participants with 34 responding.

Results: Consensus was achieved for the assessment setting for 86 (52%) of the performance criteria after two rounds of surveying. The majority of these performance criteria achieving consensus at round one (n=44) and were deemed to be best assessed in the practice setting (n=55). This study highlighted the perspectives of assessors and their preference for the work-based setting for assessment.

Conclusions: To reduce the focus on work-based settings as the only place for competence-based assessment of health professionals there is a need to support individual and organisational change through challenging existing norms around assessment.

Key Words: assessment, competency, Delphi, work-based learning, dietitian

Introduction

There is increasing pressure on the health care system to be able to offer enough quality work-based learning experience for all health professional students.¹ This poses challenges to universities in ensuring appropriate assessment for their students in these resource-stretched settings. Health professional education programs should be working towards a systems or programmatic approach to assessment whereby multiple methods of assessment over time are used to inform the judgement of competence^{2, 3} however little work has been undertaken to map elements of competence and their appropriate place in an assessment system.

Ensuring equity and comparability in assessment is essential for student learning and for education providers. Competency-based assessment is perceived to represent a burden to placement sites with evidence suggesting some assessors feel insecure about conducting assessment^{4, 5} and recognise a conflict in having dual roles as both teacher and assessor.⁴ The importance of the “right person” to perform assessment is imperative for accuracy of assessment.⁶ There is evidence to suggest that experience is an essential component of ‘good’ assessment^{4, 7} and feedback provided by assessors also a key requirement.⁸ Assessment of competence in work-based settings is influenced by tradition and individual experiences⁹ suggesting that health professional assessors are resistant to change. Changing the perspectives and then practice of health professionals requires an investment of time in considering the proposed new approach.¹⁰ While it would appear that knowledge of assessment can improve practice in dietetics¹¹, it remains unknown which strategies may facilitate and sustain change to assessment approaches. Studies suggest that lack of effective leadership and ownership are among

factors impeding change to practice within health care organisations.¹² Understanding the social constructs in which educators and assessors practice, and why individual assessor behaviour may be difficult to change, may be essential to break down barriers to change.

Determining the focus for assessment in the work-based setting is essential to reduce burden on clinical educators and supervisors. This would potentially increase capacity and consistency of work-based learning and assessment. To foster flexibility in the design of work-based placement, increase authenticity of assessment and increase placement opportunities by reducing burden, there is a need to understand if there is an opportunity to move some assessment to the university. This is especially true for the profession of nutrition and dietetics in Australia where an increasing number of preparatory courses require an ever increasing amount of work-based placement learning with a finite capacity to deliver.

The Dietitians Association of Australia (DAA) National Competency Standards for entry-level dietitians¹³ describe what a graduate is able to do upon completion of an accredited degree in nutrition and dietetics in order to enter the workforce. Work-based learning placements (also known as ‘professional practice’, ‘fieldwork’ or ‘clinical placements’) are widely acknowledged as playing a key role in facilitating learning in the development of competence across the health professions¹ and form part of accreditation requirements in most professions. Dietitians are currently required to spend 100 days (approximately 800 hours) in practice placement across three

compulsory contexts of individual case management, food service management and community and public health nutrition work-based settings.¹⁴

This study aimed to gain understanding and consensus regarding the setting for assessment of all elements of competence for entry-level dietitians in Australia. The findings should inform the development of assessment systems and the role of assessment prior to work-based learning as part of a system of assessment.

Methods

A Delphi technique¹⁵⁻¹⁷ was used to gain consensus of opinion among experts in nutrition and dietetics education. Experts commented on which of the entry-level competency performance criteria they believed can only be demonstrated in the practice or placement environment, compared to those which can be demonstrated in a classroom or university setting or through simulation, and those where either setting can be used. The theoretical framework underpinning the methodology was that competency-based assessment includes performance in controlled situations mimicking practice and also performance in actual practice.^{18, 19}

The Delphi technique uses a survey to gather anonymous and diverse opinions from experts who participate in a series of rounds of the survey with the aim of gaining consensus of opinion.¹⁵ It is useful in gaining data across diverse geographical locations and has been used to gain consensus on competencies related to nutrition practice.^{20, 21} Ethics approval was obtained from the relevant human research ethics committees (approval numbers: 2011001765, 2012000036 and 1200000001).

An electronic, internet based survey using Qualtrics[®] was developed based on the entry-level competency standards for Dietitians in Australia.¹³ The 44 elements and 166 required performance criteria were used as the basis for the survey as a reflection of tasks required to demonstrate ability to perform entry-level work role.²² A five point Likert scale was used as the rating for participants to judge assessment settings where 1 = Strongly disagree - can only be assessed in a practice setting, 2= Disagree - predominantly assessed in a practice setting, 3= Neither agree nor disagree - could be either setting, 4 = Agree - can be mostly assessed in the classroom/university setting, 5 = Strongly agree - can be assessed entirely in the classroom/university setting. The survey was divided into nine sections, reflective of the eight units of entry-level competency standards for which there were performance criteria and an additional section for demographic information (experience, practice area of experience and area of employment). Participants were also able to leave qualitative comments in each of the eight performance criteria sections. The survey maintained anonymity of participants avoiding dominant viewpoints or peer pressure to influence responses and allowed time for considered responses across a broad geographical area.

Expert assessors from academia and practice involved in dietetics education, identified through snowball sampling from dietetic course convenors, were identified as the sample for the study from all the 14 accredited dietetics programs in Australia at the time of the study. These expert assessors were sent an invitation to participate in round one of the Delphi survey via an email link, and were sent two reminders over a one

month period from the initial invitation. It was predicted that two rounds of the data collection would achieve consensus based on similar work in the practice area.^{20 23}

Round two of the survey was sent to the participants who completed round one of the survey. Again these participants were sent two reminders to complete round two of the survey over a one month period. Performance criteria items that achieved consensus on the first round were removed from round two of the survey. The revised survey was sent to participants who were provided the group results (medians) for each item from the previous round to allow them to consider the group response before making their own response. Qualitative data were not shared with participants.

Frequency of responses of items scored 1-2, 3 or 4-5 by more than 70% of the panel, as has been recommended for Delphi studies¹⁵, were deemed to have reached consensus for the practice, university or either setting. Text responses were collated and analysed using a basic thematic analysis²⁴ to assist gaining insight into the rationale behind participant's responses.

Results

Seventy-four assessors from academia (n=52) and practice (n=22) were invited to participate in the study representing 11 of the 14 universities accredited to provide dietetics education. The researchers conducting this study, all with experience in assessment of entry-level dietitians, were excluded from participating. Forty-three participants (58% response rate) completed round one of the Delphi and were sent round two. Thirty-four experts (79% retention rate) completed round two. The majority

of the respondents in round one (79%) were currently working in academia in either teaching only or research and teaching roles (Table 1). Practitioners with affiliated appointments with universities were classified as practitioners. When asked to describe their main areas of practice, the majority of the 43 round one respondents described their expertise as individual case management (n=18, 42%) and as a career academic (n=15, 35%). Only seven reported public health nutrition, two food service management and one management as their focus areas.

Greater than 70% agreement was obtained for two of the nine units of competence defining practice (individual case management and community and public health nutrition) and less than 20% agreement for units describing nutrition communication and nutrition assessment, units which underpin dietetic practice (Table 2). Overall, agreement was achieved for the assessment setting for 86 (52%) of the performance criteria after two rounds of the survey, with minimal additional performance criteria being achieved in round 2, with the exception of community and public health nutrition (Table 2). The majority of performance criteria where consensus was achieved (55 or 64%) were deemed to be required to be assessed in the practice setting. By area of work (academia or practice) descriptive analysis together with qualitative analysis provided evidence that practitioners perceived the assessment setting differently to academics. Practitioners (n=9 round 1 and n=4 round 2) did not believe any performance criteria could be assessed in the university setting, whereas academics (n=34 round 1, n=30 round 2) agreed that 5% of the performance criteria could be assessed at university.

There was a perception that tasks can be practised and formatively assessed in the university classroom but must be summatively assessed in a practice setting for achievement of competence. It was reported that assessment in the practice setting develops additional skills and provides rich learning and that any competency area involving oral communication skills needs to be undertaken in practice. It was however acknowledged that preparation prior to a work-based placement is essential to support learning. Qualitative comments also reflected a lack of acceptability of the current Competency Standards performance criteria in that there were too many specific tasks reflected and significant repetition.

Discussion

This study aimed to determine which settings are currently believed to be appropriate for assessment of all elements of competence for entry-level dietitians in Australia. To our knowledge this is the first study to investigate assessors' perceptions of the setting for assessment. We found a trend towards perceiving the traditional practice or work-based setting as the setting which provides the optimum environment for assessing the majority of entry-level competencies and that few competencies could be assessed in the university classroom-based setting. Despite the exploratory nature of the study design, these findings have implications for the future preparation of the health workforce and the development of assessment systems.

The higher levels of consensus for the number of performance criteria in the individual case management domain on competence may indicate an acknowledgement of the key work role of dietitians in individual patient care or the larger sample from this area of

practice. The lower levels of consensus for community and public health nutrition and food service competencies required to be assessed in actual practice may reflect a lack of experience of the participants in these areas. The limited consensus achieved for nutrition communication and nutrition assessment was unexpected given that these areas underpin dietetic practice. This finding may reflect a diversity of views among participants or be driven by the requirement for accredited programs that all performance criteria are assessed in practice.¹⁴ It highlights a need to grow the profession's understanding of competency based assessment.

It is accepted that competency-based assessment programs must incorporate assessment in the simulated and real practice settings¹⁹ to facilitate regular assessment and feedback.²⁵ There is sound evidence in medicine of the ability of simulated learning and assessment experiences, such as role play and simulated patients, to develop communication and clinical skills^{26, 27} and acknowledgement that assessment develops competence.²⁵ For the profession of dietetics to embrace the concept that individual competencies or skills can be developed in the simulated setting there is a need for greater evidence. There is no denying the role of the work-based setting for demonstrating competence as a whole, however the literature suggests that refinement of skills such as nutrition assessment and communication in simulated settings is possible and would reduce the need to develop and assess these skills in work-based settings.

There has been much recent attention to coordinate and enhance the student clinical placement experience for all students of medicine, nursing and allied health. Some of

this work has been on supporting the preparation of students prior to work-based learning experiences with the aim of reducing the amount of learning time required in the health care system.²⁸ That is, modalities such as simulated learning have been developed as tools to reduce the need for work-based learning and assessment by better preparation of students to enter health care settings.²⁹ The findings of this study provide interesting insights into the views of those involved in dietetics education, where a preference for the traditional work-based learning for the development of competence is clearly identified. While there is no denying the instrumental role of assessment in the health care system, the role of assessment in classroom settings as part of a systems approach to competency based assessment needs to be better acknowledged. This has implications for health professions generally and seems to contrast evidence appearing on the value of pre-placement, simulated or classroom based learning in developing competence.³⁰

The entrenched positions found in this study are not congruent with modern understanding of assessment of competence that should be focused on a systems-based approach to assessment that recognises the role of multiple pieces of assessment as contributing to judgement of competence.^{3,31} Involving the student in assessment may also be considered.³² Setting standards for assessment in the work-based placement setting is an essential part of an assessment system for entry-level competency. Universities need to take leadership and provide academic and practitioner educators with support to implement work-based assessment but also to support a shared understanding of the role of assessment prior to work-based learning.

The assessment attitudes and behaviours of health professional educators are likely to be influenced by existing professional social norms.³³ In order to change the perspectives and practice of health professions there is a need to consider the plausibility, feasibility and efficiency of any proposed new methods.¹⁰ Furthermore, if change is suggested for health care professionals, including academics working in health professional education, there is a need for a greater body of evidence confirming the value of different assessment methods and standards of assessment and the role of the university setting in assessing entry-level standards. This is of key significance as academics and educators embark on implementation of best-evidence health professional education. Any proposal to change standards for assessment and transition from work-based practical placement assessment to other assessment settings must consider the approaches of current assessors.

The results of this study also report dissatisfaction with current performance criteria and may reflect different interpretations of, or reflect ambiguity in, the current entry-level competencies for dietitians among academics and practitioners. Recent work has shown that students perceive clinical educators to have difficulty interpreting the actual requirements of competence.³² If this is the case, then opinions on how this assessment takes place may be flawed. Our methodological approach also assumed that respondents had an understanding of the continuum of competence assessment and the role of ‘showing’ as well as ‘doing’ in simulated or real-life practice.¹⁸ Respondents to the Delphi survey may not have had this knowledge and therefore the results should be interpreted with caution.

This study is limited in that it only represents the views of a selected group of dietitian educators. Their opinion on assessment may be more informed by experience than evidence. The limitations of the Delphi methodology in obtaining perspectives rather than actually testing assessment of different elements of competence are also a limitation. The lack of consensus on 80 of the 166 performance criteria which cannot be interpreted is unknown. While there was little additional agreement between rounds one and two of the Delphi survey, a third was not undertaken as a workshop of interested parties conducted as part of a larger activity, did suggest that further agreement would be difficult to reach.³⁴ There is a need for health professional groups to set standards for achievement of competence as part of a system of assessment. Setting milestones to describe the progression of capabilities as part of an assessment system rather than seeing assessment of competence as a final hurdle may be required. Further research should investigate the appropriateness of simulated or classroom based assessment in contributing to a system of assessment.

In conclusion, this study identified a consensus preference towards the traditional practice or work-based setting as that which provides the optimum environment for assessing the majority of entry-level performance criteria. There is an urgent need to address dietetic educators' perceptions of assessment to be able to implement best-practice assessment. Resistance to change may be a critical barrier in reducing assessment burden in work-based placement, enhancing practice and expanding placement opportunities to more novel sites.

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Table 1: Demographics of participants in round 1 and 2.

	Round 1	Round 2
Gender	3 male; 49 female	2 male; 41 female
Years since commence practice (mean \pm SD)	19.8 \pm 8.6 years	20.4 \pm 8.4 years
Area of current work		
Academic (n, % total)	34 (79%)	26 (76%)
Practitioner (n % total)	9 (21%)	8 (24%)

Table 2: Results of Round 1 and Round 2 of Delphi survey. Number of performance criteria that achieved consensus >70% agreement.

Number of performance criteria within each unit of competence for rounds 1 and 2 combined	Nutrition Communication	Collection, analysis and assessment of nutrition/ health data	Individual Case Management	Community and Public Health Nutrition	Food Service Management	Research and Evaluation	Management and Organisation	Professionalism, advocacy, innovation and leadership
<i>Assessed in practice setting</i>								
Round 1 = 39	Round 1=1	Round 1=1	Round 1=21	Round 1=6	Round 1=4		Round 1=1	Round 1=5
Round 2 = 16		Round 2=1	Round 2=1	Round 2=3	Round 2=4	Round 2=1	Round 2=3	Round 2=3
Total = 55	Total = 1	Total = 2	Total = 22	Total = 9	Total = 8	Total = 1	Total = 4	Total = 8
<i>Assessed in <u>either</u> practice or classroom/university setting/simulation setting</i>								
Round 1 = 0								
Round 2 = 26	Round 2=1	Round 2=1	Round 2=1	Round 2=14	Round 2=4	Round 2=2	Round 2=1	Round 2=2
Total = 26	Total = 1	Total = 1	Total = 1	Total = 14	Total = 4	Total = 2	Total = 1	Total = 2
<i>Assessed in the classroom/university setting/simulation setting</i>								
Round 1 = 5				Round 1=4		Round 1=1		
Round 2 = 0								
Total = 5				Total = 4		Total = 1		
Total performance criteria to reach consensus	2 out of 17 (12%)	3 out of 16 (19%)	23 out of 32 (72%)	27 out of 34 (79%)	12 out of 23 (52%)	4 out of 12 (33%)	5 out of 11 (45%)	10 out of 21 (48%)