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ORIGINAL RESEARCH

Exploring behaviour change skill development during final placements: Practice educator and student perspectives

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Abstract

Aims: The integration of behaviour change science into dietetics education is crucial for developing competent health practitioners. However, the ability of final placements to provide student dietitians with the opportunity to practice skills for supporting dietary behaviour change is not yet understood. This study aims to explore how placements shape the development of dietetics students' knowledge and skills in behaviour change through the novel approach of drawing on practice educator and student perspectives.

Methods: Using a constructivist approach, qualitative data were collected through semi-structured interviews with practice educators and focus groups with graduating dietitians. Questions aimed to explore the practice educator role in developing student behaviour change skills and aspects of hospital placement that improved student confidence. Data were transcribed verbatim and analysed using inductive thematic analysis to identify key themes and sub-themes.

Results: Eleven hospital-based practice educators and eight dietetics graduands participated. Three key themes were identified: (1) limited modelling of behaviour change within a hospital placement; (2) experiential learning needed to consolidate behaviour change skill development; and (3) the need to strengthen behaviour change science in dietetics. Throughout each theme, educators and students described challenges to skill development on placement, such as limited opportunities to practise behaviour change interventions, insufficient attention to behaviour change in feedback and assessment, and differing educator confidence in teaching these skills.

Conclusions: This study suggests a need to strengthen opportunities for students to link theoretical and practical learning of behaviour change skills to work toward producing a workforce of confident behaviour change agents.

KEYWORDS

behaviour change, dietetics, problem-based learning, qualitative research, students, workforce

1 | INTRODUCTION

Dietitians play a key role in supporting individuals, groups and communities to change their dietary behaviour.[1] Effective dietary behaviour change is most often achieved with the application of behaviour change science, that are the theories that explain how behaviour change occurs, and the actionable techniques that can be used to implement change.[1–3] The application of behaviour change science contributes to building effective practitioner–patient relationships, increasing client satisfaction with nutrition counselling services, and improving the overall delivery of patient-centred care.[3,4]

Despite the need for behaviour change skills in dietetics practice, the existing research base suggests that new graduate dietitians struggle to link behaviour change theory and practice.[4–7] According to the most recent literature available from Australia and the United Kingdom, many graduate dietitians notice serious gaps in their behaviour change knowledge and skills upon commencing their first work role.[4–7] However, in the years since the last Australian study was published, the guiding documentation for the tertiary education of dietitians has undergone several revisions.[8,9] The latest updates to the Dietitians Australia National Competency Standards[8] and Accreditation Standards for Dietetics Education Programs[9] reflect a shift in graduate employment toward private practice and emphasise the importance of preparing student dietitians to be 'change makers,' who are well-equipped in communication, counselling and behaviour change skills.[10]

Dietitians are typically introduced to the concept of behaviour change science during their tertiary education.[11] The extent to which behaviour change is included in dietetics curricula in Australian and New Zealand programs was explored in a 2021 descriptive study by Rigby et al.[11] Their analysis of curricular documents and interviews with academics revealed behaviour change theory was mostly delivered through workshops, with some universities utilising simulation-based learning activities such as role-playing and student-led clinics.[11] The study found that whilst academics believe behaviour change to be fundamental to the dietitian role, they perceived some barriers to student learning including an already overloaded curriculum, varied levels of confidence in teaching behaviour change science, and the expectation that practical behaviour change skill development is consolidated on final placements.[11] Final placements act as a practical opportunity for student dietitians to apply their knowledge and practice skills prior to being assessed according to the Dietitians Australia National Competency Standards.[8]

Placement provides students with exposure to 'real-life' patients and projects, offering experiential learning to connect theory with practice and the opportunity for authentic assessment.[12,13] Authentic assessment opportunities represent the actual work requirements of dietitians and have been identified as a crucial aspect of dietetic education.[13] Throughout placement, students are guided and assessed by clinical educators and supervisors, termed together as 'practice educators.'[12] In addition to possessing the knowledge and skills to perform their work role, a practice educator must also be proficient in offering feedback, assessing student competence and role-modelling dietetic skills.[12,14] Practice educators are in a prime position to improve student knowledge and skill development,[12] however the role they take in supporting behaviour change learning remains unclear.

Previous research within the Australian context has utilised individual interviews or focus groups to separately explore practice educator and student perspectives regarding clinical placement quality and learning experiences,[12,13,15,16] however, few have drawn on the perspectives of both parties to gain a deeper understanding of where improvements are most needed. Recent findings from a scoping review of the literature on communication skills in dietetics highlight a significant gap in research regarding the development of these skills during university-based education.[17] The review also called for greater attention to the perspectives of both educators and students.[17] Equally, there is a lack of research examining how university-based education influences the development of dietitians' behaviour change skills. Given that placements play a pivotal role in student learning, exploring how behaviour change skills are developed during final placements could help address this gap in the literature. Therefore, this study aimed to explore the development of student behaviour change knowledge and skills during placement from practice educator and student perspectives.

2 | METHODS

This study was informed by the paradigm of constructivism and followed a qualitative methodology. Constructivism recognises that reality is subjective and focuses on understanding how individuals construct their own reality, rather than the researchers constructing knowledge based on the perspectives of participants.[18] This study considered that participants' varied backgrounds, assumptions and experiences would contribute to their perception of student behaviour change skill development on placement.[18] The research team for this study comprised four female researchers from Griffith University. Three research members were academic dietitians, two with PhD level qualifications with extensive research experience in behaviour change and qualitative research and

one with extensive experience as a practice educator. The fourth member was a nutrition and dietetics Honours student at the time of the study. The varied backgrounds and experiences of the research team members and their special interest in behaviour change theories and practice informed the methodology and interpretation of this study. Ethical approval was provided by the Griffith University Human Research Ethics Committee (Reference number: 2023/069). The reporting of the study methods and results complied with the consolidated criteria for reporting qualitative research (COREQ).[19]

Eligible participants included Accredited Practising Dietitians with current experience as a clinical educator or supervisor of dietetic students (collectively referred to as practice educators) on hospital-based placement within Griffith University's placement catchment areas (Queensland and New South Wales). Hospital-based placements were chosen as they provided students the most opportunity to practice behaviour change with individuals outside of food service and community public health placements. Clinical educators were purposively sampled through the Griffith University database ($N = 12$) and emailed an invitation to participate in the study themselves and to forward the invite to supervisors in their work setting. They were offered a $50 voucher for their assistance. As the pool of clinical educators who supervise hospital-based placements for Griffith University was relatively small, supervisors were also purposively sampled from the professional contact list of two of the study researchers and offered a $20 gift voucher in exchange for their time. All practice educators who participated in the study went into a random prize draw for one of two $100 vouchers.

Potential student participants were final year undergraduate nutrition and dietetics students from Griffith University who completed all 320 credit points of their 4-year undergraduate degree, including final placements in 2023. At the time of the study, students had completed three and a half years of university coursework, and a final capstone placement comprising 21 full-time weeks divided into 11 weeks of medical nutrition therapy (i.e., clinical/hospital-based individual case management), 6 weeks of public health and 4 weeks of food service management. Students were separated into two cohorts, as placement was either completed mid-year (June) or end-of-year (December). Coursework completed in the years prior to placement included behaviour change theories and techniques within courses focusing on public health nutrition, nutrition education and communication and counselling. Recruitment emails were sent to 53 nutrition and dietetics students at the end of their placement blocks in June ($n = 28$) and December ($n = 25$). Student participants were offered a $10 gift card in exchange for their time.

Semi-structured interviews were utilised to explore practice educators' perceptions of their role as facilitators of behaviour change skill development in students. Individual interviews allowed for flexibility to fit with practice educator schedules, whilst negating the risk of conformism and social desirability bias.[20] The inquiry logic and line of questioning for individual interviews were derived through a review of relevant literature and guided by the research questions and is outlined in Table 1. Interviews were conducted by the Honours student who had undertaken a thorough review of literature relevant to behaviour change and clinical education in dietetics. To reduce risk of confirmation bias, two researchers that held pre-existing relationships with some practice educator participants were not directly involved in the data collection phase of the study. The semi-structured interview protocol was discussed by the student researcher with a member of the research team experienced in practice education as a form of member-checking.[21] Participants were provided with an outline of the questions prior to the interview to allow for familiarisation of behaviour change terminology.

Focus groups were used to gather student perspectives on aspects of placement that developed their confidence in supporting patients with behaviour change. This method of data collection allowed for discussion of similarities and differences in experiences between students, revealing the themes and issues of the most importance to the group.[20] There were two planned focus groups: one for the June and one for the December student cohort. The planned focus group size was 8–10 students per group to ensure a variety of responses could be heard.[22] The inquiry logic and line of questioning for focus groups were derived through a review of relevant literature and guided by the research questions. The leader of the focus group discussions also contributed to refining the line of questioning based on previous experience conducting focus groups with students. The inquiry logic and line of questioning for focus groups are outlined in Table 1.

Focus group discussions were led by a member of the research team with a PhD in behaviour change and prior experience conducting qualitative research, whilst the Honours student was present to make field notes to assist in data analysis. The Honours student's recent experience of undertaking behaviour change education within the undergraduate dietetic course at Griffith University presented an advantage in understanding student experiences. Although the researcher was known to student participants, there were no foreseen conflict of interest or risk of bias as the students had completed their degree. The focus group interview protocol was semi-structured with open-ended questions, allowing for probing into topics arising from original questioning (e.g., 'From your experience,

TABLE 1 Inquiry logic based on constructivist paradigm.

Line of questioning—practice educators	Line of questioning—students
Understanding of behaviour change science	
• Perspectives on existing definition of behaviour change science • Implementation of behaviour change in own dietetic practice	• Perspectives on existing definition of behaviour change science
Experiences learning behaviour change science	
• Formal training/experiences that have contributed to confidence in behaviour change	• Opportunities to implement behaviour change science on placement
• Learnings from work experience using behaviour change with patients	• Learning experiences that have had greatest impact on confidence to utilise behaviour change skills in practice
Perspectives on university teaching of behaviour change science	
• Adequacy of university behaviour change teaching prior to student placement	• Perception of the success of university courses in teaching behaviour change skills prior to placement
Perspectives on role of practice educators in developing student behaviour change skills	
• Perception regarding who is responsible for helping students to develop behaviour change skills • Strategies used to encourage student skill development • Confidence in teaching students behaviour change skills	• Aspects of placement that supported development of behaviour change skills
Perspectives on challenges in developing student behaviour change skills on placement	
• Barriers to teaching/learning behaviour change skills on placement	• Barriers to practising behaviour change skills on placement
Perspectives on effectiveness of placement in equipping new graduates in behaviour change	
• Perception of new graduate dietitian's ability to support patients in behaviour change	• Current confidence levels in supporting patients with behaviour change
Perspectives on improvements needed to support student behaviour change skill development	
• Suggestions to support practice educators in developing student behaviour change skills	• Suggestions to support graduates in feeling more confident in behaviour change skills

how did your placement support you to practise behaviour change skills?').

Interviews and focus groups were conducted online via Microsoft Teams and video recorded with informed participant consent. The transcription function of the online meeting platform 'Teams' was used to produce a verbatim transcript. The Honours student reviewed transcripts and made corrections where answers had been transcribed incorrectly. Participants were emailed a copy of their de-identified transcript and given 2 weeks to make any corrections. Finalised transcripts were imported into NVivo software.[23] Thematic analysis was conducted in an inductive manner, allowing meaningful themes and sub-themes to be developed from interpretation of the raw data.[24]

As explained by the concept of information power, the quality of the interview/focus group dialogue and the experience of the research team allowed for sufficient depth of data to be collected from a smaller sample of participants.[25] Guided by Braun and Clarke's phases of thematic analysis,[26] the analysis process involved data familiarisation, generation of initial codes and development of overall themes and sub-themes. Initial codes were developed through highlighting data relevant to the study aim and assigning short descriptions. Examples of initial codes created during analysis of interviews include 'strategies to teach students behaviour change skills' and 'reflections on current university course.' Meaningful data from subsequent transcripts were assigned to these initial codes, and new codes were created where applicable. Analysis of focus group interviews revealed initial codes such as 'use of behaviour change on placement' and 'confidence in behaviour change abilities.' Data from educator and student perspectives were combined to form final themes.

The dependability of the study results was enhanced by including ideas and explanations of the data from multiple perspectives of those in the research team.[27] In acknowledgement of personal reflexivity,[28] two members of the research team independently completed initial data coding, before meeting to compare and contrast findings. The remaining two members of the research team had a pre-existing relationship with practice educators but had no direct involvement with the interviews or handling of identifiable data.[29] Regular meetings were then conducted with the entire research team to discuss the findings. The final themes and sub-themes were developed and named in agreement by all four members of the research team. Participants were not asked to provide feedback on the findings.

3 | RESULTS

Interviews were conducted with 11 practice educators between March and May 2023. Interview length varied

from 20 to 30 min and there were no repeat interviews. No participants elected to edit the transcribed responses. Focus groups were conducted in line with cohort completion, with one group occurring prior to mid-year graduation (June 2023; five participants) and another group conducted prior to end-of-year graduation (November 2023; three participants). Focus groups were approximately 1 h each in duration. Participant characteristics are displayed in Table 2.

TABLE 2 Study participant groups and characteristics.

Participant group and characteristics	*N*
Practice educators ($N = 11$)	
Sex	
Female	10
Male	1
Workplace location	
Queensland	8
New South Wales	3
Work role	
Clinical educator	5
Supervisor	6
Role in assessment of student competence	
Yes	9
No	2
Current clinical caseload	
Inpatient only	1
Inpatient and outpatient	7
No patient caseload	3
Years since graduation from dietetics degree	
0 to <5 years	0
5 to <10 years	4
10 to <15 years	5
15 to <20 years	1
20+ years	1
Years of experience in practice education	5–12 years
Nutrition and dietetics students ($N = 8$)	
Sex	
Female	8
Male	0
Hospital placement location	
Queensland	8
New South Wales	0
Hospital placement caseload	
Inpatient only	4
Inpatient + outpatient	4

Thematic analysis revealed three main themes: (1) limited modelling of behaviour change within a hospital placement; (2) experiential learning needed to consolidate behaviour change skill development; and (3) the need to strengthen behaviour change science in dietetics. Each theme encompassed two to three sub-themes. Table 3 displays key themes and sub-themes, supported by verbatim quotes. Participants were allocated a number to maintain anonymity and quotes are reported according to that number and participant type (PE = practice educator, S = student).

The first theme was *Limited modelling of behaviour change within a hospital placement*. Practice educators and students described behaviour change science as an aspect of practice not frequently modelled or discussed during hospital placement. Whilst a small number of students described experiences of practice educators initiating conversations around behaviour change and posing reflective questions to aid in the learning process, several other students said their practice educators did not touch on behaviour change in feedback, nor assessment. Practice educators described behaviour change as being covered within broader discussions with students that focus on interpersonal skills and aspects of client-centred care.

Students explained that although they were comfortable assessing stage of change and applying behaviour change science with simulated patients at university, these skills were not at the forefront of their mind on placement. There were conflicting opinions between students as to whether this lack of conscious attention was due to behaviour change becoming naturally intertwined in their practice; '*You kind of do it [behaviour change] subconsciously*' *(S7)*, or because behaviour change had not been brought to their attention by practice educators; '*It was never brought up in any of my clinical placements.*' *(S5)*.

Students described their observations of role-modelling and open discussions with practice educators regarding behaviour change as useful for their learning. Considering that role-modelling is an important practicum teaching method, some practice educators expressed concern that students in the acute care setting may not have the opportunity to observe behaviour change skills demonstrated in practice. '*I think the setting you're in makes a big difference. Inpatients are often too sick to talk about it, or they might be nowhere near going home. There's not as much reason to try and change their behaviours at home, because it's so far in the future.*' *(PE7)*. Practice educators explained how workload pressures of simultaneously managing a caseload and supervising students limited their ability to develop behaviour change skills in students. Students similarly described the difficulties in obtaining constructive behaviour change feedback due to practice educator time constraints. '*It's the*

TABLE 3 Key themes arising from practice educator interviews and student focus groups.

Theme	Sub-theme	Illustrative quote of practice educator perspectives	Illustrative quote of student perspectives
Limited modelling of behaviour change within a hospital placement	Behaviour change not always consciously applied in practice	*'I think working in an inpatient setting ... dietitians put some of those behaviour change skills to the backburner. If the students aren't seeing that modelled in their supervisor, they're less likely to do it as well.' (PE10)* *'... it's not something that I have consciously paid a lot of attention to ... if you've got a patient and you make a recommendation that we need to put a tube in ... perhaps it's not the right time to talk about the behaviours that led us to this point.' (PE3)*	*'You kind of do it [behaviour change] subconsciously ... maybe reflecting back I was doing some elements of behaviour change without realising that I was.' (S7)* *'When I got on placement, I thought until a point that I had kind of just let them* [behaviour change theories] *disappear out of my mind ... until I went to observe a dietitian during a consultation. After the patient left, she asked me "what stage of change do you think they're at? Since then, I started to reflect back on all my experiences with patients."' (S1)*
	Lack of explicit role-modelling of behaviour change skills	*'Behaviour change sits more broadly under the 2.2.4 competency standard around client-centred counselling skills ... my conversations with behaviour change happen in that broader setting around patient-centred individualisation of strategies, as opposed to specifically behaviour change.' (PE6)*	*'I kind of forgot about behaviour change when I was on placement with patients. It was never brought up in any of my clinical placements or assessed ... When I was at university learning about it, I felt very comfortable with it and would apply it in my university work, but when it got to placement, I didn't.' (S5)*
	Practice educator time constraints limit the focus on student behaviour change skill development	*'Even if you've got a clinician supervising that has a very good understanding and experience in behaviour change, we don't have the capacity ... we're supervising students on top of a role that we have already, that is usually quite full and quite busy ...' (PE4)*	*'It's the supervisor caseload that acts as a barrier as well ... so that also cut out time from getting that learning.' (S6)*
Experiential learning needed to consolidate behaviour change skill development	Students want 'real-life' behaviour change experience and feedback on placement	N/A	*'I get the theory side of it* [behaviour change] *... but I think it needs to be implemented practically for it to make sense.' (S1)* *'University can give you information and you can do simulations ... but you're not sure whether you're on the right track until you hit placement and you have to do it. Your supervisors are then the ones guiding you in developing the skills to actually do it in practice.' (S8)*
	Dietitians build confidence through reviewing patients and seeing 'what works'	*'I think the confidence comes from seeing lots of patients over time ... the next time you follow someone up, you see if they've made the changes effectively or not ... over time you build a bit of a mental database of things that work for certain people and get a gauge of when something's a good strategy or unrealistic.' (PE7)*	*'When you review a patient, you're able to determine whether there has been a behaviour change. If that intervention has been successful ... that's evidence of behaviour change ... If you're unable to review them ... it's impossible to know whether or not behaviour change has resulted.' (S2)*
	Limited opportunity to advance behaviour change skills in the acute setting	*'The counselling and behaviour change stuff is completely different in an inpatient setting to an outpatient setting,*	*'I didn't get any outpatient clinic experience during my placement. All I really know is inpatients ... I'd be able to*

TABLE 3 (Continued)

Theme	Sub-theme	Illustrative quote of practice educator perspectives	Illustrative quote of student perspectives
		so that would be a huge barrier to really expanding on some of those skills … if much of your 11 weeks was spent in a ward-based situation.' (PE1)	*transfer those skills, but there will probably be new challenges and obstacles when I go into an outpatient or private practice setting that I'll have to develop.' (S6)*
The need to strengthen behaviour change science in dietetics	An evidential improvement in student awareness of behaviour change concepts	*'I think there have been definite improvements over the past few years in the students that are coming through in terms of motivational interviewing.' (PE9)* *'When I went through* [university], *we did motivational interviewing in 2nd year for one part of a course … I feel like in the past few years, students have come to placement better prepared in that regard.' (PE6)*	*Not Asked*
	Practice educator doubts in knowledge of 'textbook' behaviour change	*'I wouldn't feel confident talking [to students] about a lot of behaviour change theories or the science behind behaviour change … it wouldn't surprise me if a lot of supervisors said that their behaviour change skills are from anecdotal experiences with patients over time. I would be surprised if a lot of them were very up to date on the textbook of behaviour change … a lot of clinicians might be lacking in that knowledge.' (PE7)*	*Not Asked*
	Ideas to support behaviour change education on placement	*'It would be interesting to know exactly what's being taught and how to point back to things that were taught* [at University] *and to help that reflective building.' (PE9)*	*'We had those structured activities on placement, so whether one of them could be where we pick five patients and each time we see them, we write down what stage of change we think they're at …'(S1)*

supervisor caseload that acts as a barrier as well … so that also cut out time from getting that learning.' (S6).

The second theme was *Experiential learning needed to consolidate behaviour change skill development*. Both practice educators and students described the importance of practise in developing behaviour change skills. Many practice educators described their own experiential learning as essential for skill development—'*I have been working with patients for a long time now … I have the experience of generally sort of knowing what works with people.' (PE1)*. Students commented on the value of the placement environment for developing behaviour change skills. Students acknowledged that university-based learning activities such as simulated patient consultations can only develop their skills to a certain extent, and that they appreciated the exposure to the wide array of situations that arise with real-life patients. Students also recognised the importance of obtaining one-on-one feedback from placement practice educators, describing how generalised group feedback delivered at university was less useful for their individual behaviour change skill progression. '*You've got that one-on-one set up with them [practice educators] on placement … you can get direct feedback. At university, you watch a lecture, you do a workshop, but even in your workshop you've got 30 other people, and the simulations are just kind of awkward. I feel like I learned way more on placement because it was real life.' (S7).*

Both practice educators and students discussed how their confidence in behaviour change had grown through the experience of observing behaviour change outcomes in patients attending review outpatient consultations.

This experience allowed practice educators to make note of which techniques best assisted patients in changing their behaviour. When students had the opportunity to observe patients making positive behaviour change, self-confidence in their own skills increased. Unfortunately, not all the participating students obtained experience in the outpatient setting. These students expressed an awareness that they would need to further upskill in behaviour change if they secured a role within the outpatient setting upon graduating. Short length of patient stay on the ward made it particularly challenging for students to utilise behaviour change skills. Practice educators described how working only with inpatients could prevent students from developing behaviour change skills. '*I think [how well placement prepares new graduates in behaviour change] is variable on the placement … If you're seeing someone in an outpatient setting with chronic disease and lots of social barriers, you're going to need a lot of those skills … students might need to do further learning*.' *(PE3)*.

The third theme was *The need to strengthen behaviour change science in dietetics*. Practice educators perceived an improvement in student knowledge and awareness of behaviour change science over recent years. Several practice educators observed student application of behaviour change concepts such as motivational interviewing[30] and the Trans-Theoretical Model (stages of change)[31] with patients on placement. '*I think students are better at identifying where someone is in that stage of change, and it's in the forefront of their mind*.' *(PE6)*. Practice educators speculated an enhanced focus on behaviour change science education at university to be responsible for this improvement. Some practice educators compared this with their own experiences of learning behaviour change science at university, with many perceiving that it played a lesser role in curriculum during their studies. '*I don't remember being taught any behaviour change at university … maybe there was a slide in a lecture somewhere … but no specific tutorial*.' *(PE2)*.

Many practice educators expressed a desire to better support students to apply their university-based behaviour change learnings on placement, however, several shared that they thought their own knowledge of behaviour change science might be outdated. They expressed interest in engaging with universities to discover how behaviour change science is currently taught, in the hope of bridging their perceived disconnect between theory and practice. Students also had suggestions to improve their own behaviour change learning. They suggested that more prompts and guidance for self-reflection by way of competency reflections or structured learning activities on placement would be helpful in bringing behaviour change to their attention and allowing them to monitor their own progress in skill development. Practice educators expressed a desire for more explicit competency-based behaviour change skill assessment, to help guide the delivery of behaviour change feedback to students. '*Filling in the competency forms, I think about basic skills … It might be helpful to be more specific, like using motivational interviewing skills … a specific thing we can evaluate*.' (*PE10*).

4 | DISCUSSION

This qualitative study provided valuable insights from practice educators and student dietitians on how hospital-based, medical nutrition therapy placements influence the development of student behaviour change skills. Our findings identified three themes, highlighting that there may be fewer opportunities for modelling of behaviour change within a hospital placement, that experiential learning is needed for behaviour change skill development, and that behaviour change science needs to be further strengthened in dietetics. Addressing the perceived inconsistency of behaviour change practice opportunities for students on hospital-based placements may involve strengthening simulation-based learning prior to placement, exploring placement environments which allow for greater attention to patient behaviour change, and further developing practice educators' knowledge of behaviour change theory.

Practice educators and students highlighted the varied support and feedback students receive for developing behaviour change skills on hospital-based placements. These findings confirm concerns previously raised by academic dietitians that opportunities for students to practise behaviour change on placement are largely dependent on the re-enforcement and prompting provided by supervisors.[11] Existing literature demonstrates a strong argument for the role of simulation-based learning to address these concerns. Simulations, a guided strategy replicating real experiences, provide authentic education in a low-risk environment.[32] These experiences allow university students to learn from mistakes without the potential of harming real clients and offer greater opportunity for individualised feedback.[32] Although some student participants said their university simulation experience did not support their behaviour change skills development, they suggested that incorporating more individualised feedback from assessors and more realistic patient scenarios may improve the effectiveness of these experiences. It is well documented that simulation-based learning can improve skills such as patient counselling,[33] interpersonal skills,[34] interprofessional collaboration[35] and overall confidence in placement preparedness.[33,36] Embedding behaviour change focussed simulations prior to placement could address the concerns of varied

opportunities for support and feedback on placement whilst simultaneously enhancing student preparedness and skill development.

Participants expressed that students who have only experienced hospital-based placements may not be equipped with the scope of behaviour change skills required in private practice. The inpatient environment was described as a difficult setting to focus on behaviour change, with challenges such as clinician time and capacity constraints and inappropriate timing for patients who are unwell. This finding is consistent with previous literature which has explored health professionals' perceptions of barriers to applying behaviour change in a hospital environment.[37] The last two decades have seen a shift in the Australian workforce away from dietetics graduates beginning their careers in public hospitals,[38] to the majority commencing work in the private practice setting.[39,40] Placement models with outpatient or private practice experiences may provide more opportunities for students to practise behaviour change interventions and refine their skills through repeated patient follow up.

Practice educators in this study expressed a lack of confidence in their own knowledge of behaviour change science. Several described limited theoretical behaviour change learning during their own dietetic education, crediting their skills to being learned on the job instead. It is important to acknowledge that more than half of practice educators interviewed for this study graduated from university prior to the development of standardised naming of behaviour change techniques within the Behaviour Change Technique Taxonomy,[41] a naming system which many Australian dietetics students are now familiarised with prior to placement.[11] As some participants desired to upskill in theory to better support student development, there need to be educational opportunities available for practice educators to update their behaviour change knowledge. Workshops as short as 2 h have demonstrated success in improving health professionals' knowledge of behaviour change techniques and their intention to utilise these in practice.[42] These workshops could be delivered by universities to support practice educators to identify behaviour change opportunities within their current inpatient practice, facilitating role-modelling of behaviour change techniques to students.

This study was strengthened by an in-depth qualitative design that captured the perspectives of both practice educators and students. The member-checking of the interview protocol,[21] along with the experience of the research team, enhanced the credibility, confirmability and dependency of the study.[43] While the transferability of the findings is limited by the qualitative design and the fact that the students interviewed were all enrolled at a single university, the practice educators, based in Queensland and New South Wales, supervise students from several universities. Most practice educators possessed more than 10 years of supervisory experience, providing perspectives on the progression of student behaviour change skills over the past decade.

This study was the first to reveal barriers to dietetic students practising behaviour change skills on hospital placements. Whilst revisions to the dietetic curriculum in line with the National Competency Standards and Accreditation Standards have ensured students are knowledgeable in behaviour change theory, this study highlights a potential gap in their opportunities to link theory with practice. The findings suggest opportunities to strengthen student behaviour change skill development through simulation-based learning opportunities that provide exposure to realistic behaviour change scenarios prior to placement, broadening placement experiences to include outpatient and private practice settings, and updating practice educator knowledge of behaviour change theory. Given this qualitative study involved students at a single university, further research into other Australian and international dietetics programs may highlight nuances of university education and placement experiences that further inform recommendations. Future research directions could also explore the development of student behaviour change skills in inpatient versus outpatient placement settings. Furthermore, this study raises a question regarding the need to provide behaviour change training that is specific to dietitians working in an acute care setting. Educational workshops that support dietitians to identify and improve upon behaviour change techniques already applied in their practice could contribute to harnessing the prime position of these clinicians to support health behaviour change.

AUTHOR CONTRIBUTIONS

All authors contributed to the conception and design of the research. All authors contributed to the analysis and interpretations of the data. GD drafted the original manuscript. All authors contributed to the writing, reviewing and editing of the manuscript. All authors agreed with the final manuscript being submitted. The content has not been published elsewhere.

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CONFLICT OF INTEREST STATEMENT

The authors of the study were academics at Griffith University, at the time of the study, with relationships with placement supervisors and responsible for teaching of Nutrition & Dietetics student participants.

DATA AVAILABILITY STATEMENT

Research data are not shared.

ETHICS STATEMENT

Ethics approval was provided by the Griffith University Human Research Ethics Committee (GU ref. no: 2023/069).

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