International Journal of Practice-based Learning in Health and Social Care

International Journal of Practice-based Learning in Health and Social Care
Vol. 4 No 2 December 2016, pages 1-18

The Effect of a Restructured Dietetic Placement Programme Centred Around the Nutrition and Dietetic Care Process (NDCP) on Students' Confidence and Paperwork Burden

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Abstract

Dietetic pre-registration training includes placements within a healthcare setting. In 2011, King's College London and London Metropolitan University updated the placement programme with learning outcomes and assessment tools, based on the Nutrition and Dietetic Care Process (NDCP). Over a two year period (2012-2014), students completed a questionnaire post their second placement, measuring their confidence with the NDCP in clinical practice and reporting the hours they spent on placement assessment tools. Fifty-three students met the inclusion criteria. Twenty-two students (42%) had completed the new-style placement, P2, and thirty-one (58%) the old-style placement, PB. Students' median confidence level score for undertaking nutritional assessment tasks for patient care (step 1 of NDCP) was significantly statistically higher in the group that had completed P2 (5.0; very confident) than the PB group (4.0; confident), U = 464, z = 2.545, p = .011. The median hours-spent score was significantly statistically higher for PB students (3.0 equates to 1-2 hours) than P2 (2.0 equates to up to 1 hour), U = 205.5, z = -2.546, p = .011. The use of a care process model (NDCP) introduced at university to structure placement learning outcomes and assessment tools, is effective at preparing students to provide dietetic care. The reduced amount of paperwork required to demonstrate achievement of learning outcomes, decreases learner burden and shortens working hours. Further research, and placement assessment tools modification, are recommended to improve the student learning experience while reducing paperwork burden for learners and practice educators.

Keywords: assessment; confidence; dietetics; learning; placements

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Journal URL: http://e-learning.coventry.ac.uk/ojs/index.php/pblh

Mealey, E. (2016) 'The effect of a restructured dietetic placement programme centred around the Nutrition and Dietetic Care Process (NDCP) on students' confidence and paperwork burden'. *International Journal of Practice-based Learning in Health and Social Care*, 4 (2), 1–18

Introduction

Background

Dietetic placements are vital for students to have the opportunity to apply their academic knowledge, develop clinical skills, professional competency and to become reflective practitioners (Lennie and Juwah 2010). Until 2000, in the UK, all students on courses leading to eligibility for state registration in dietetics were required to undertake two periods of practical placement prior to qualifying; a six week catering placement followed by 28 weeks in National Health Service (NHS) establishments (Judd 2011). In 1996, following extensive consultations with dietitians, the British Dietetic Association (BDA) Education and Training Review Group (1996) recommended the placement structure be changed to three shorter placements. Subsequently, following the publication of the '*Guidelines for Pre-registration Education and Training'* (Dietitian Board and British Dietetic Association 2000) pre-registration dietetic practical experience was amended to three practical placements known as ABC (A, four weeks; B, twelve weeks; and C, twelve weeks) within a healthcare environment and interspersed throughout periods of academic education at the students' enrolled university. This placement structure was designed to enable students to gradually develop the practical skills of the dietitian alongside the development of academic knowledge (Judd *et al.* 1997), reflect on their learning from each placement element, and to demonstrate progression (Lennie and Juwah 2010).

After the implementation of the ABC training structure, an evaluation of this new placement model versus the 31 week model was undertaken via a questionnaire to 1,000 dietitians with a 43% response rate. This concluded that the graduates from the new system were similar to those from the old system, and tended to be more reflective in practice (Judd and Thomas 2007 cited in Judd 2011: 94).

123 Placements

Following the launch of the BDA curriculum *Framework for the Pre-Registration Education and Training of Dietitians* (British Dietetic Association 2008) and the incorporation of the Nutrition and Dietetic Care Process (NDCP) (British Dietetic Association 2009) into the academic curriculum, King's College London (KCL) and London Metropolitan University (LMU) used the opportunity to update how placements were delivered and integrated into the dietetic programmes.

The NDCP describes a systematic step-by-step approach that dietitians can "follow in any intervention; with individuals, groups or populations; in clinical settings, public health or health promotion" aiding "the development of a consistent high standard of dietetic practice" (British Dietetic Association 2012: 18). It "demonstrates how dietitians integrate professional knowledge and skills into evidence based decision making, therefore, it differentiates between dietitians and other professionals who provide some nutrition services" (British Dietetic Association 2012): 3. The NDCP was influenced by the American Dietetic Association's Nutrition Care Process and Model (Lacey and Prtichett 2003). There is a growing body of evidence from the American Dietetic Association that the use of a care process and standardised language has many benefits (British Dietetic Association 2012), notably ensuring consistent record keeping and therefore improving, determining, and measuring outcomes of dietetic care.

The NDCP was adopted by LMU and KCL, embedding it in preregistration education at university and subsequently applying it in a placement setting to provide students with a systematic process to follow for dietetic care, "supporting the development of consultation skills, clinical reasoning and [ensuring] a consistent standard of practice" (British Dietetic Association 2012: 5). Thus graduates would be able to "consistently demonstrate the unique skills of the dietitian in delivering health outcomes and a quality service" (British Dietetic Association 2012: 16).

In addition, during the decade when the ABC placement system was in used, there were several aspects that had been highlighted by university placement tutors, students, and practice educators (clinical dietitians training students in practice) that required modification:

- Practice educators had highlighted to university placement tutors that the time required to complete competency assessment tools was a barrier to quality supervision of students;
- Students had repeatedly reported in placement tutor visits and in post placement debriefs that there were excessive amounts of placement assessment paperwork. A national survey conducted in 2008 amongst dietetic students (n=114) who had completed a placement C and/or B supported this with 76% of respondents agreeing that the amount of paperwork required for a completed portfolio was excessive (Brennan and Lennie 2010);
- Students had repeatedly reported in placement tutor visits and debriefs that they were spending large amounts of time completing placement assessment tools. Brennan and Lennie's (2010) study findings support this with vast differences between students regarding the time spent on the portfolio, ranging from zero to over twenty hours. However, it was unclear, due to student misinterpretation of this question how many of these hours were outside the standard working day;

Furthermore, difficulties in finding appropriate high-quality clinical placements was increasing, due to pressures on the NHS. Thus, there was a need to design a placement programme that supported the integration of the NDCP in the placement environment which, at the same time, enabled efficient and appropriate paperwork to be undertaken as evidence of competency development.

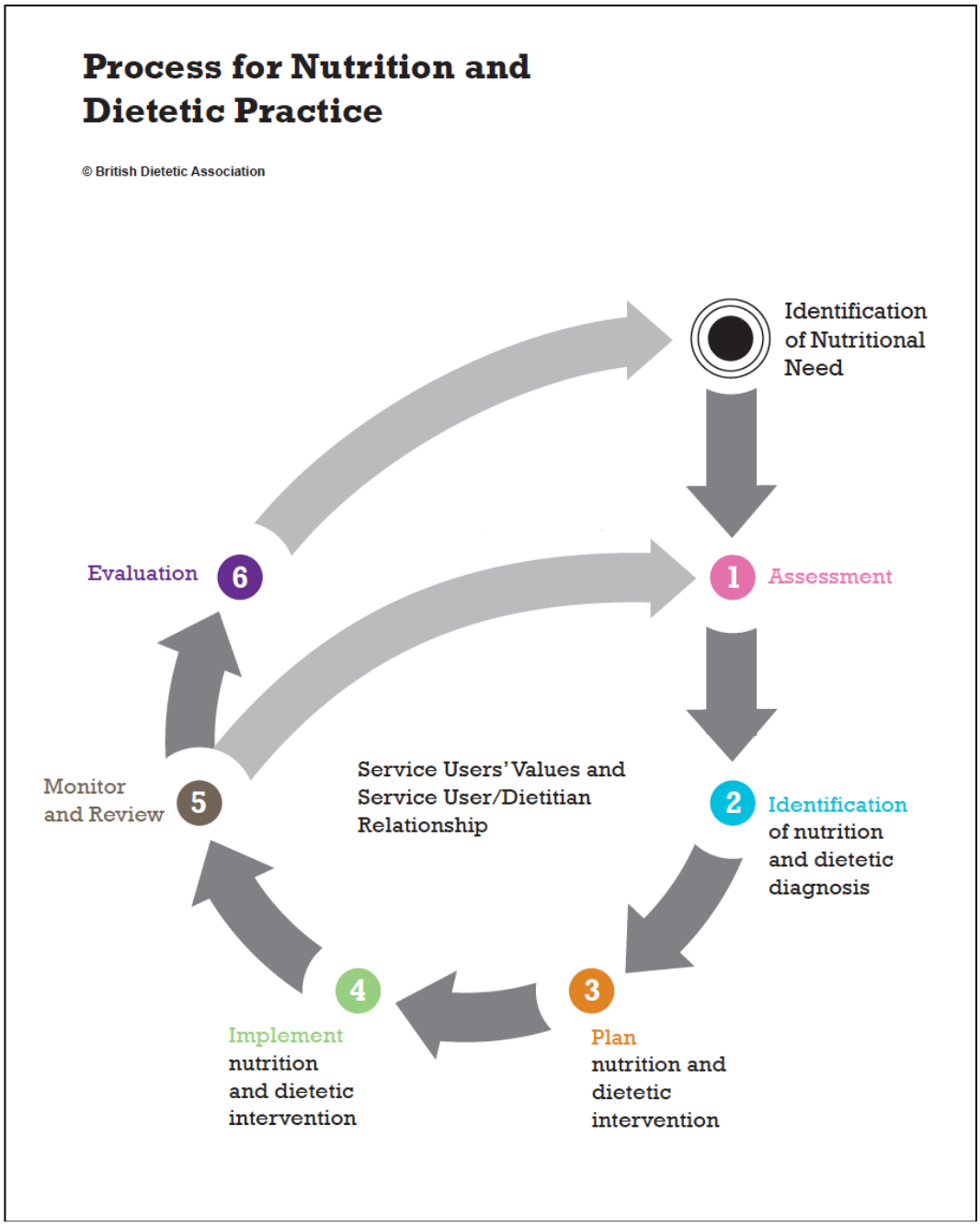
Placements were renamed from 'ABC' to '123'. Placement 1 (P1) was reduced to 2 weeks, Placement 2 (P2) remained at twelve weeks and Placement 3 (P3) increased to fourteen weeks. The total of 28 weeks of clinical placement remained.

The focus of P1 is the assessment phase (step 1 of NDCP) with individuals only; P2, the whole NDCP with individuals and groups; and P3, the NDCP with individuals, groups and communities/organisations. The overall learning aims of placements progress from a student being able to 'observe and understand' on P1, to 'observe and practice' on P2, and to 'continue to develop' by P3. The new placement learning outcomes were all based on the NDCP with structured learning activities around the process. Learning outcomes were developed by academic staff at both institutions, in collaboration with practice educators across the London region. The placement assessment tools were radically modified to shorter, focused, clinical observation forms; self-review forms; and care plan templates making student observation more 'active' for deeper learning and encouraging reflective feedback in supervisor-student discussions.

The new-style placement was gradually implemented in the academic year 2011-twelve in the postgraduate (PG) courses, and in the undergraduate (UG) courses in 2012, at both universities. Practice sites were supported in a gradual transition from ABC placements to 123.

From 2011, all students received the same introduction to the NDCP prior to going on placement, in clinical dietetic teaching, learning about the process and how to apply it in a range of settings and patient specialities.

Figure 1: The Process for Nutrition and Dietetic practice (BDA 2012)[1] [diagram reproduced with permission] demonstrates how dietitians integrate professional knowledge and skills into evidence-based decision making. The process clearly identifies six systematic steps within a dietetic intervention, and the skills, resources and knowledge used by the dietitian within the intervention.



[1] The NDCP (BDA, 2009) was revised in 2012 with minor amendments to reflect the diversity of dietetic practice

Rationale for the study

There is very limited dietetic placement research. Various approaches for improving the quality of the student's experience in practice settings are under-evaluated and often rely on small-scale projects in one institution, evaluated by those who have developed the approach.

In this article, we report the findings of students' evaluation of their second clinical placement.

The aims are to measure students' perception of:

(i) preparation for completing placement assessment tools;

(ii) the burden and number of hours spent completing placement assessment tools;

(iii) confidence with the each step of the NDCP;

following completion of a P2 in comparison with students who had completed the old-style PB.

A secondary objective was to identify areas for ongoing improvement in the new-style placement programme.

Hypothesis: The student-perceived preparation for completing placement assessment tools and confidence level for all steps of NDCP will be higher for those students who undertook a P2 versus a PB.

P2 students will perceive placement assessment tools as less burdensome and spend fewer hours completing these outside the working day compared to the students who undertook a PB.

The intervention

Table 1A: Describing the intervention: Placement B (PB) versus Placement 2 (P2)

	PB	**P2**
Length	12 weeks	12 weeks
Number of learning outcomes	17	7
Learning outcomes	Divided into three areas: knowledge (1 learning outcome), communication (3 learning outcomes), and professionalism (13 learning outcomes)	Learning outcomes 1-5 focus on each step of the NDCP; learning outcome 6 – professionalism; learning outcome 7 – communication.

Table 1B: Describing the intervention: Assessment tools PB versus P2

	For practice educator to complete	For student to complete	Joint completion (student and practice educator)	Total
Number of assessment tools a completed PB portfolio should contain	1 • End of placement summary x 1	18 • Assessment tool 1- record keeping and communication relating to individual consultations x 3 • Assessment tool 2 – planning, implementing and reviewing care x 6: 3 new and 3 follow-up patients) • Assessment tool 3 – working with groups x 3 • Assessment tool 4 – Taking responsibility for professional development x 4 • Assessment tool 5 – professionalism x 1 • Reflective diary (daily): Not assessed.	11 • Weekly review forms x 11 (recommended – not standardised across placement sites)	30
Number of assessment tools a completed P2 portfolio should contain	22 • Clinical observation x 17 • Group work observation form x 3 • Professionalism/clinical governance sign off grid x 1 • End of placement summary x 1	15 • Individual patient self-review x 5 • Working with groups self-review x 3 • Health promotion project sign off sheet x 1 • Audit project sign off sheet x 1 • Care plans x 4 • Reflection on placement overall x 1: Not assessed.	11 • Weekly review forms x 11	48

Although overall there are more assessment tools for P2 (48 in total), than PB (30 in total) there was more balanced completion with almost half (46%) of the tools having to be completed by the dietitian (see Table 1B).

Methods

A convenience sample of 139 students across six cohorts was used. This was an exploratory study and, as a result, there was no power calculation. UG and PG students at KCL and LMU were recruited over a two year period (September 2012-2014) on their return to university during routine placement debrief sessions. Completion of a second clinical placement during this period was the only inclusion criteria. All students were requested to complete a short paper questionnaire on their placement experience.

This questionnaire was designed based upon the author's experience and anecdotal evidence from students and practice educators regarding the placement learning experience. Face validity of the questionnaire was enhanced by a review of its format and content by a placement tutor based at each university.

However, due to time constraints and the setting up of the questionnaire over a university holiday period without access to students, the questionnaire was not piloted.

The questionnaire consisted of four main sections capturing information, opinions, and experiences of placement relating to Section 1: (i) university preparation (ii) reflective practice (iii) feedback (iv) learning experience (v) paperwork (vi) assessment tools; Section 2: level of confidence with aspects of the NDCP; Section 3: (i) placement type (ii) peer assisted learning; Section 4: demographic information. The findings of section 1 (i), (v) (vi), section 2, section 3 (i) and section 4 are only reported in this article.

Students were required to rate:

- whether the NDCP introduced at university prepared them well for completing the placement assessment tools along a five-point Likert scale extending from 1 (strongly agree) to 5 (strongly disagree);
- whether they felt the number of hours spent on placement assessment tools was excessive along a five-point Likert scale extending from 1 (strongly agree) to 5 (strongly disagree). In addition, they were required to report how many hours they spent outside the typical working day (7.5 hours i.e. 9am-5pm) working on the placement assessment tools;
- their level of confidence after completing placement in relation to the steps of the NDCP along a five-point Likert scale extending from 1 (very confident) to 5 (very unconfident).

Ethical approval for the study was obtained from LMU's Human Research Ethics Committee (September 2012). During the post-placement debrief sessions, the data collection protocol was outlined and confidentiality and anonymity were assured. Students were free to opt out of completing the questionnaire. Returning the questionnaire implied consent to participate.

Data analysis used descriptive and nonparametric statistical tests (Mann-Whitney U) using SPSS, version 23.0. $P \leq 0.05$ was considered statistically significant.

Findings

Participants

Due to staff changes, which resulted in the questionnaire not being administered in all briefing sessions and to students nonattendance, 38% of eligible students (n=53) completed the questionnaire.

Of the 53 returned questionnaires, 22 students (42%) had completed a P2 and 31 (58%) a PB. Each student had completed twelve weeks of placement, providing data for a total of 636 weeks of placement.

Ninety-one percent of students were female. Seventy-nine percent of respondents were enrolled at LMU and 21% at KCL. All students who completed a P2 were enrolled at LMU. Ninety percent of respondents were undergraduate students. All postgraduate students had completed a P2 (see Table 2).

All students were mature students (>21 years of age). The majority (53%) of students were aged 25-34 years, 29% of students were 21-24 years, 16% 35-44 years, and 2% 45-54 years (see Table 2).

Table 2: Participants' characteristics

	PB (n=31) (58%)	**P2** (n=22) (42%)
Sex [a]		
male	1	3
female	29	19
Age in years[b]		
<21	0	0
21-24	12	2
25-34	12	14
35-44	5	3
45-54	0	1
University		
KCL	11	0
LMU	20	22
Level of study		
UG	31	15
PG	0	7

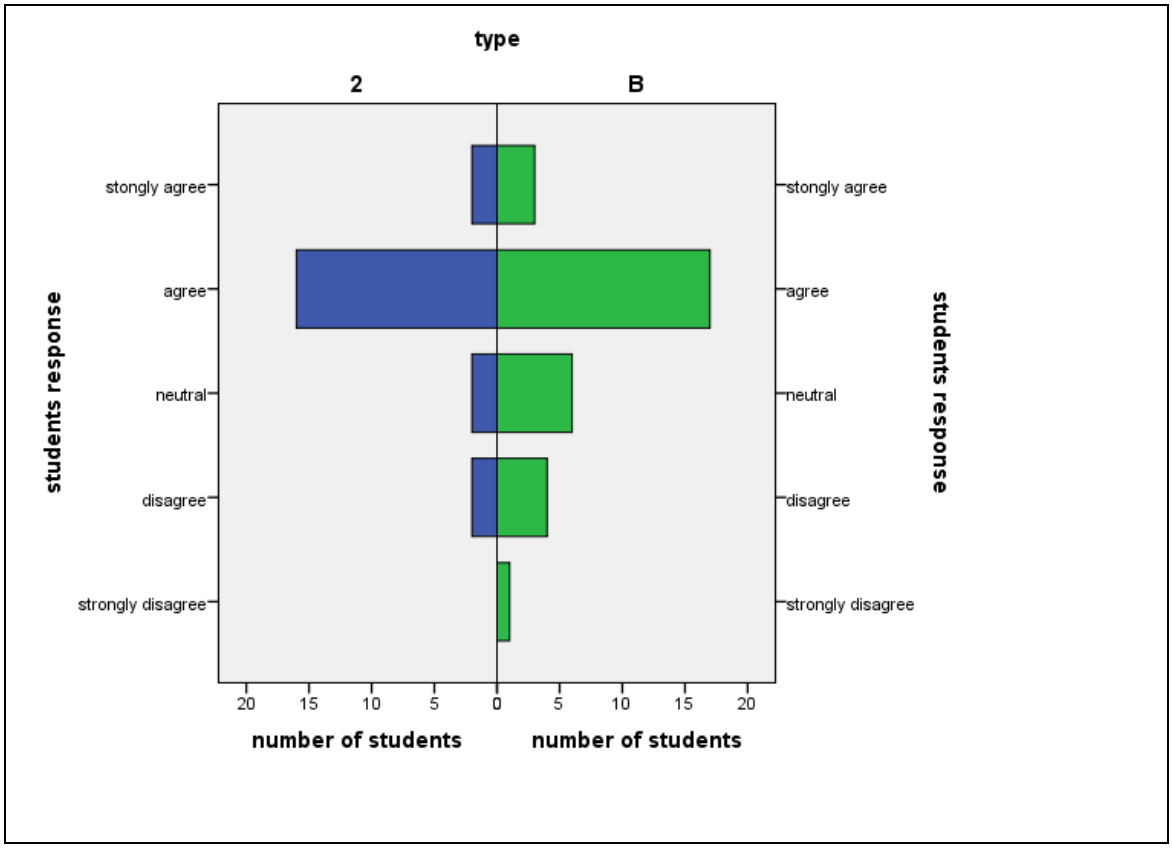
[a]one PB student did not answer this question.
[b]Four students (2 PB and 2 P2) did not answer this question

Preparation for completing the placement assessment tools: The NDCP introduced at university

Seventy-three percent of the 52 students (one student did not respond) agreed/strongly agreed that the NDCP introduced at university prepared them well for completing the assessment tools. Of the remaining students, 12% disagreed with this statement, n=4 had completed a PB and n=2 a P2. Fifteen percent of students responded neutrally to this question, n=6 had completed a PB and n=2 a P2.

Figure 2 shows that the responses of both groups as to how well the NDCP prepared them for completing the placement assessment tools, were similar. The median score for preparation was the same for both groups (4.0) = agree, U =393, z =1.082, p = .279. There was no significant difference between students who had completed a P2 versus a PB in preparation for completing assessment tools.

Figure 2: Comparison of PB versus P2 students' response to 'The NDCP introduced at university prepared me well for completing the placement assessment tools'



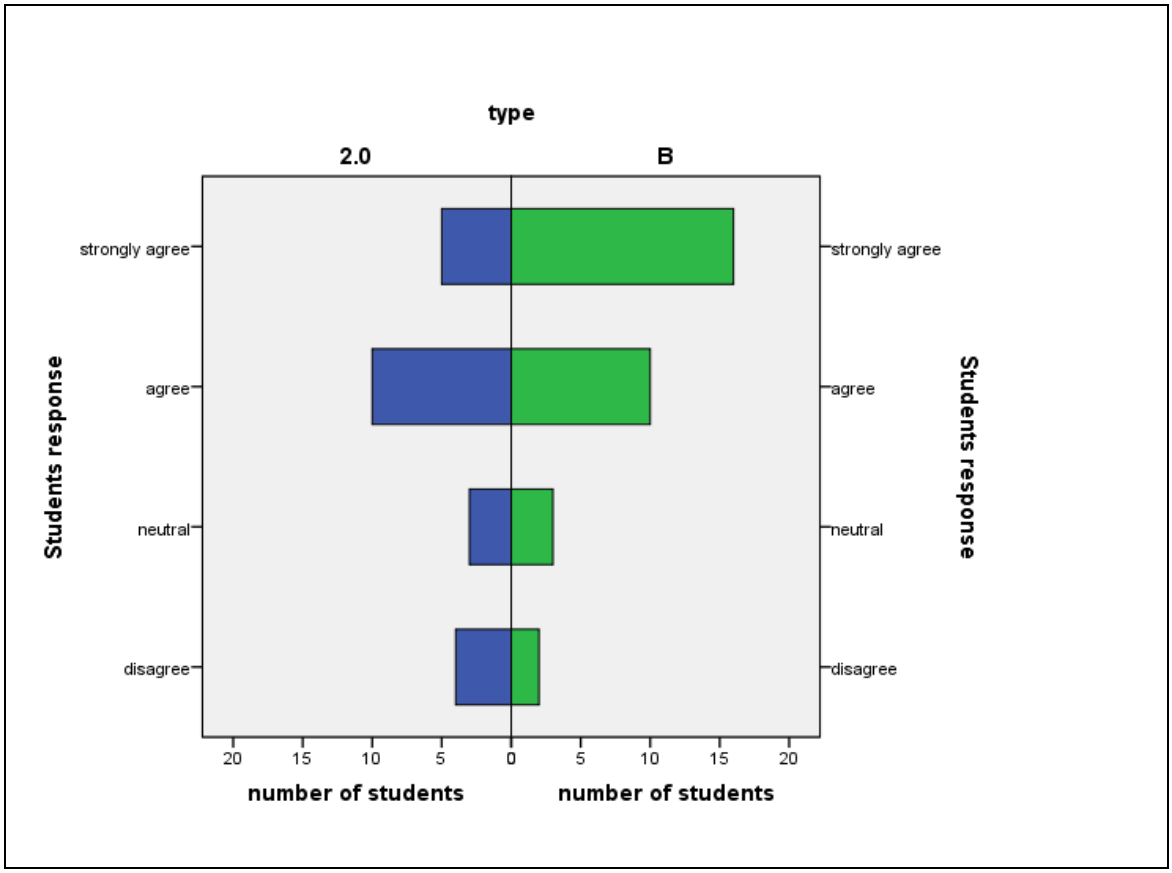
Excessive amount of paperwork

Figure 3 shows that 78% of all students felt the amount of paperwork they were required to complete to demonstrate that they had met the learning outcomes, was excessive (agree/strongly agree). Eleven percent responded neutrally (n=3 completed a PB and n=3 completed a P2). Fifteen percent did not think it was excessive (disagree/strongly disagree) (n=2 completed a PB and n=4 completed a P2).

The median score was significantly higher for PB students, (5.0; strongly agree) compared to P2 students (4.0; agree) U =229.5, z =-2.144, p = .032.

A qualitative comment from a P2 student was that '*there were too many clinical observation forms*' to be completed and they suggested that fortnightly completion, rather than weekly, would be sufficient. Another P2 student commented '*the care plans during the consolidation weeks took up a lot of personal time to complete*'. A further P2 student commented that '*although the paperwork was excessive, there was sufficient time allocated in my timetable to complete this*'. The only two comments from PB students echoed similar opinions, feeling the amount of paperwork was excessive, creating additional work beyond demonstrating they were meeting the learning outcomes.

Figure 3: Comparison of PB versus P2 students' response to 'The amount of paperwork to demonstrate that I met the learning outcomes was excessive'

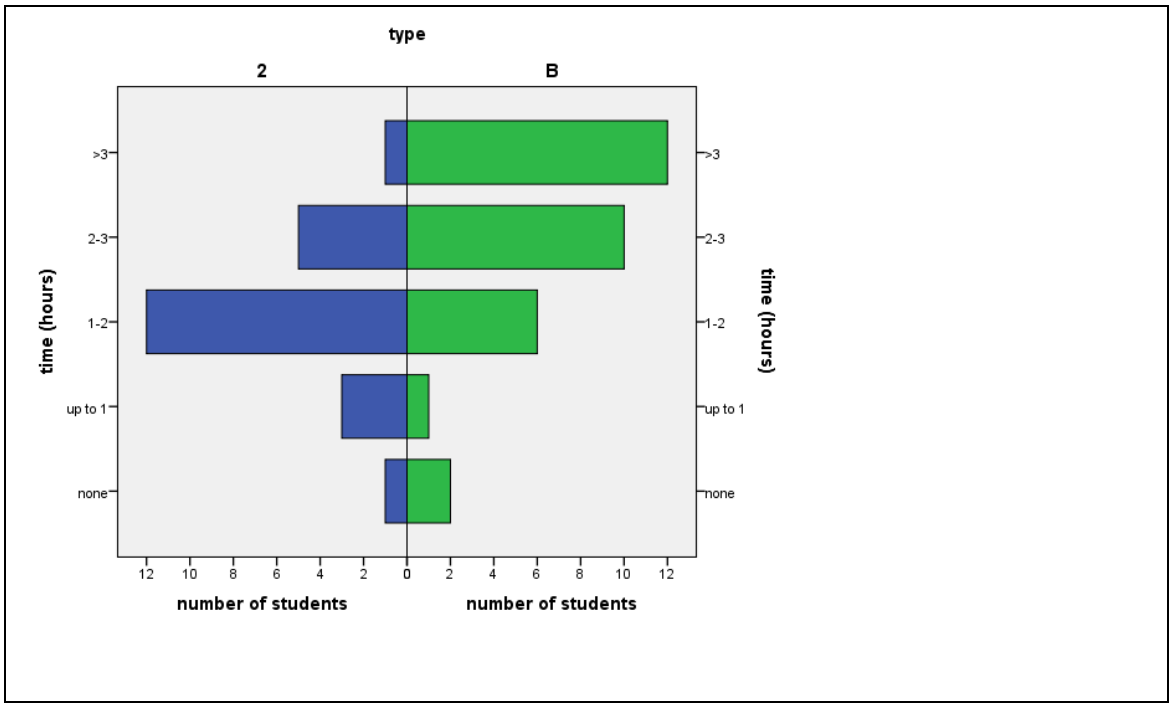


Hours spent working on assessment tools outside the working day

Figure 4 shows 80% of all students spent >2 hours working on placement assessment tools outside the standard working day (e.g. not 9am-5pm) and 25% > 3 hours. There was a larger range in hours spent working on assessment tools for PB students, from none (6%) to > 3 hours (39%), compared to P2 where the majority of students (55%) spent 1-2 hours outside the standard working day on assessment tools (see Figure 4). One P2 student did not answer this question. The median hours-spent score was significantly statistically higher for PB (3.0 equates to 1-2 hours) than for P2 (2.0 equates to up to 1 hour), $U = 205.5$, $z = -2.546$, $p = .011$.

Qualitative comments revealed that one student who had completed PB, spent up to ten hours per week outside placement hours working on the tools and supporting evidence for the portfolio. Another PB student commented that additional hours were spent outside the working hours on preparing for presentations (e.g. journal club) and projects for placements (e.g. health promotion) plus reading for specialty weeks.

Figure 4: Comparison of number of hours PB versus P2 students spent working on assessment tools outside the standard working day



Comparison of PB versus P2 students' perceived level of confidence with each step of NDCP

Table 3 shows that for all aspects of the NDCP, a higher percentage of P2 students compared to PB students reported being 'very confident'. Students were most confident with step 3 of the NDCP (100% of P2 students reported being very confident/confident, as did 96% of PB students).

Confidence levels for step 1, 4 and 5 were similar with 92%, 96% and 91% of all students reporting being very confident/confident. A higher percentage of PB students reported 'unsure' responses for their confidence level compared to P2 students. Students were most unsure of their confidence level for step 2 of the process (17% of all students). There was one qualitative comment relating to this from a PB student '*I was confident on some illnesses e.g. oral nutritional support, but on gastroenterology and ITU I was unsure*'.

Students were least confident in step 2 of the NDCP (81% of all students reported being very confident/confident). One P2 student responded 'unconfident' in formulating and justifying a nutrition and dietetic diagnosis and commented that '*the placement provider did not require me to formulate a nutrition and dietetic diagnosis in medical/dietetic notes, just an assessment and plan*'. No students responded 'very unconfident' with any aspect of the NDCP.

In the free text section that followed, one student who had completed a PB and one student who had completed a P2 commented that they would like more experience with enteral feeds, but did not specify any further details. Another PB student commented that they were unsure about designing enteral feeding regimes.

A Mann-Whitney U test was run to determine if there were differences in confident levels in carrying out all steps of the NDCP in clinical practice scores between P2 and PB students. Distributions of confidence levels were similar, as assessed by visual inspection.

Table 3: Comparison of PB versus P2 students' perceived level of confidence with each step of the NDCP

Step of NDCP	Placement type	Level of confidence Number of students			
		Very confident	Confident	Unsure	Unconfident
1: Assessment [a]	**B**	6	22	2	1
	2	12	9	1	0
2: Identification of Nutrition and Dietetic Diagnosis	**B**	2	23	6	0
	2	3	15	3	1
3: Plan Nutrition and Dietetic Intervention	**B**	2	28	1	0
	2	5	17	0	0
4: Implement Nutrition and Dietetic Intervention	**B**	2	26	3	0
	2	5	16	1	0
5: Monitoring and review	**B**	2	26	2	1
	2	4	15	2	1

[a] including identifying, collecting and interpreting relevant information and evidence from available sources

Table 4: Comparison of PB versus P2 students' perceived medium confidence level with each step of the NDCP

	PB (n=31) (58%)	P2 (n=22) (42%)	*P* value
Medium confidence level			
NDCP assessment	4	5	.011
NDCP diagnosis	4	4	.640
NDCP develop	4	4	.063
NDCP implement	4	4	.090
NDCP review, monitor and evaluate	4	4	.570

1=very unconfident, 2=unconfident, 3=unsure, 4=confident, 5=very confident

Table 4 shows that the median confidence level score was statistically significantly higher for undertaking nutritional assessment tasks for patient care (step 1 of NDCP) for P2 (5.0; very confident) than for PB (4.0; confident), $U = 464$, $z = 2.545$, $p = .011$.

Discussion

This is the first UK evaluation of students' placement experience directly comparing two different placement structures. As a result, there is little available and relevant literature against which to compare these findings.

Although this study did not did not obtain views of all students who had completed a P2 or PB during the data collection period (38% response rate) this sample was considered an accurate representation of the cohort of dietetic courses at LMU and KCL.

Preparation for completing the placement assessment tools: The NDCP introduced at university

Understanding and familiarity with the placement assessment tools is important if the student dietitian is to develop self-direction in learning on placement, and thus it is pleasing that the majority (73%) of students felt university adequately prepared them for completing the assessment forms. The familiarity of the NDCP may have helped P2 'learning transfer', the ability to apply the knowledge and skills they have gained (Nokes 2009) at university to a clinical setting. A review of research education, although not specifically examining placement learning, identified that transfer is greater when students are better prepared for future learning (Bransford and Schwartz 1999) thus it is not surprising that more PB students than P2 students did not feel adequately prepared by university teaching as PB tools were not based on the NDCP.

Excessive paperwork and hours spent working on assessment forms outside the working day

There is a large body of assessment literature, although assessment of placement learning is under-researched (Yorke 2011). Unlike assessing academic knowledge, "placement is practice that is being assessed… the application of knowledge and skills in a certain time in a given place in complex interwoven relationships with other people and objects" (Trede *et al.* 2014: 1003). Furthermore, practice educators are primarily clinicians and only secondarily clinical educators – and thirdly assessors with limited training to enable them to assess actual student learning and performance. Thus, placement assessment is challenging for practice educators, particularly for those new to this role (Palermo *et al.* 2014). Anecdotal evidence and research study findings have revealed that there is a range of differences in ABC placement assessment practices in Scotland (Lennie and Juwah 2010) and in the quantity of assessment during dietetic placements nationally (Brennan and Lennie 2010). This could impact on the reliability of assessment.

A key driver for the new-style placement programme was for opportunities to practice to be maximized, and paperwork, while needing to be rigorous enough to verify competence of placement learning outcomes, to be kept to a minimum. The new placement programme was effective in this objective with a significant difference in the proportion of P2 students who felt the amount of paperwork was excessive, compared to PB. This partly could be contributed to the responsibility for completing placement assessment tools being more balanced (practice educator and student) for P2 compared to PB. However, the new-style placement paperwork requires review as over two thirds of P2 students felt it was excessive to demonstrate they had met the learning outcomes.

In agreement with Brennan and Lennie's (2010) study results, there was a range in the hours spent on placement paperwork. The data provided by this study provides evidence that the new-style placement system assessment forms is manageable to complete within one to two hours outside standard working hours for the majority of students. However, almost a third (29%) of P2 students reported they spent over two hours, and 5% over three hours, working on assessment forms outside the standard working day. This would equate to 40.5 placement working hours per week based on a typical working week of a dietitian (37.5 hours). Placement-related working hours may be even higher as it was reported in qualitative comments that additional hours were spent outside the working hours on preparing for other placement activities. Research has shown that training to be a healthcare professional can be stressful (Grant and Kinman 2013) thus the health and well-being effect of long working hours needs to be addressed. Placement programmes should include half a day study-leave each week, which should be used by the student to prepare for placement activities and to complete assessment tools. This study reveals that this is not sufficient for a large proportion of students.

Excessive and long hours required to complete the assessment tools outside the working day will present difficulties for the ongoing national educational agenda for widening participation

and thus subsequently increasing number of mature students with domestic commitments. This evaluation highlights the importance of informing students in university preparation sessions of the expectations of assessment forms and emphasising that they are only supporting evidence that they have met the learning outcomes *and* should not require excessive working hours to complete. In addition, practice educators should monitor student workload outside of normal working hours at regular intervals (suggested at each weekly review) and support them in managing their placement workload. Finally, it is important to acknowledge that the completion of the placement portfolio paperwork is student-led. Individuals work at different rates and must be allowed freedom to decide how much time they require to sufficiently complete assessment tools as support evidence that they have met the placement learning outcomes (Brennan and Lennie 2010).

Assessing students is an important, indispensable tool to make decisions about pass or failure, and thus it is important to engage and respond to the diverse challenges that students and practice educators experience with the placement assessment tools. The placement paperwork is due for review this year (2016). This will be done in collaboration with university placement tutors and practice educators, and the data will inform the review process (considering, in particular, the number of forms required, and ensuring placement programmes continue to factor in time to enable the student to complete the placement tools).

Students perceived level of confidence with NDCP

The results of this study report the confidence levels of students following completion of their second placement only and are not indicative of competence. Whilst competence may be of greater relevance to the practice of dietetics, the role of confidence in achieving competence in health care professions, cannot be underestimated (Honey *et al.* 2011).

This study's hypothesis is supported by a larger proportion of students responding that they were 'very confident' for each aspect of the NDCP if they had undertaken a P2 compared to a PB, with a statistically significant difference for step 1. This could suggest that the NDCP is appropriate to prepare students for placement regardless of the model used for the assessment tools. The familiarity with NDCP and thus 'learning transfer', as discussed, may be partly the explanation for the increased confidence with the NDCP steps P2 students reported in particular for step 1 of the process.

Limitations

A comprehensive evaluation across the whole placement programme transition from ABC to 123 would have been beneficial to determine the full impact of the new-style programme.

Given the small sample sizes in this study, the results should be interpreted with caution and considered to be preliminary. The two groups of students were not the same. All students who completed a PB were UGs. This confounding variable could have affected the results, PG students being more confident in their ability with more experience managing workloads and competing deadlines and thus more efficient at completing assessment tools. In addition, a higher percentage of P2 students were >25 years, compared to PB students, and they may have had more life demands which meant they could not spend the hours working on placement tools. In addition, the results do not equally represent each university, the majority of the respondents (79%) being enrolled at LMU. This needs to be considered in interpreting and implementing this study's findings, as there is variation in delivery and structure of the courses at LMU and KCL.

A further factor which would have influenced the results is the variety of P2 and PB placement settings and thus the 'unique interactions with a range of patients, clients, service users, families, health and social care professionals' (Roxburgh, Bradley, and Lauder 2011) each student would have experienced.

These findings need to be considered with a clear recognition of the limitations of the student reported data collection method used. Participant anonymity would have enhanced the validity of data, yet it may have been compromised due to recall errors, time estimation errors or even falsified data entries. In addition, it must be considered that participants with a heightened interest in, or opinion of, their placement experience may have been more likely to complete the questionnaire, possibly resulting in extremes of opinions which are not representative of the entire student population. The questionnaire was not piloted and used a non-validated confidence scale to determine the strength of different opinions and confidence levels of the students. This may have resulted in an inaccurate capture of students' opinions due to the perceptions in variation of the difference between 'strongly agree' or 'very confident' through to 'strongly disagree' or 'very unconfident'. Furthermore, the 'neutral' and 'unsure' category potentially leads to an under-representation of both positive and negative opinions. It would have been helpful to breakdown the confidence question into different specialist areas of dietetic practice as highlighted in qualitative comments. Focus groups, in addition to the survey would have been helpful to explore responses further.

External validity of this survey is also limited as the 123 placement programme is only delivered in the London region, although the generic themes are important considerations for all practice educators to note.

Recommendations

Information from this study has been useful in formulating action plans to:

- Review the placement assessment tools considering the number necessary to demonstrate learning outcomes competencies, and the time allowances planned into placement programmes for students to complete these tools. It is recommended that attempts should be made to reduce the volume of paperwork required to demonstrate that a student has met the learning outcomes in order to relieve learner burden;
- Modify university preparation guidance on the purpose of, and time allowed for, completion of placement assessment tools;
- Ensure all students continue to receive a half day study leave each week and evaluate whether students use this time effectively for completing placement assessment tools and preparing for placement activities;
- Further research with larger groups and across multiple university programmes investigating students' confidence development is warranted to ensure that assumptions used to design clinical learning assessments are based on valid evidence.

Conclusion

These results support the use of a care process model (NDCP), introduced at university and subsequently, to structure placement learning outcomes and activities. The model is effective in preparing students to confidently provide dietetic care, particularly the assessment step of the NDCP. The reduced amount of paperwork required to demonstrate achievement of learning outcomes potentially maximises opportunities for clinical practice. Student experience of the new-style 123 placements will continue to be evaluated following each cohort's completion of placement during debriefs at each university. Working with practice educators this feedback will be used to make appropriate changes to placement programmes in the London region. Further research is recommended into dietetic placement learning to improve the student learning experience while reducing the paperwork burden for learners and practice educators. Due to diverse student cohorts and the crisis in finding sufficient clinical education placements, establishing the most effective and efficient methods for developing confidence and assessing students on placement is crucial.

Acknowledgements

The author would like to thank the contribution of the 53 London Metropolitan University and King's College London University Nutrition and Dietetics students in data collection.

Dianne Reidlinger, former placement tutor at King's College London, contributed to the survey design.

Clare Cremin, placement tutor at King's College London, contributed to data collection and data entry.

A précis of this article appeared in the European Federation of the Associations of Dietitians (EFAD) e-journal, as:

Mealey, E. (2015) 'An evaluation of the London dietetics new style placement'. *EFAD e-journal* [online] 2 (2), 6–7. available from https://issuu.com/info.edde/docs/efad_e-journal_vol_2_issue_2

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