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## NEW INNOVATIONS IN THE DEVELOPMENT OF PRACTICE PLACEMENT EDUCATION FOR STUDENT DIETITIANS

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### Abstract

The B.Sc. in Human Nutrition and Dietetics is a Level 8 (honours) programme (see Bologna Agreement 1999) run jointly by the Dublin Institute of Technology (DIT) and the University of Dublin (Trinity College). The programme is designed to provide an integrated training in the science of nutrition and dietetics and its application to human health and well being both at the individual and community level. To fulfil professional requirements, it includes 30 weeks of placement-based studies, 24 of which are currently undertaken in a variety of health care settings in Year 4 (see European Federation of the Associations of Dietitians 2005 and Irish Nutrition and Dietetic Institute 2005). Students must be deemed competent to practice professionally as a dietitian in order to successfully complete their B.Sc. degree. Research undertaken (see Bowles 2008), on the Irish system of practice placement education for student dietitians indicated that students experienced difficulty in changing from the academic to the workplace learning environment, and had difficulty understanding at the outset what the practice placement education entailed and what they needed to do to gain competence. Practice placement educators reported a lack of guidelines and assessment criteria. In response to these issues, the programme team and personnel from the DIT Learning, Teaching & Technology Centre initiated the development of practice placement learning outcomes and performance indicators, staged competence criteria for monitoring students on placement, staged formative and summative assessments and general guidelines for practice

placement education. This paper discusses the collaborative approach between the higher education institution and the practice placement educators on this work-based learning partnership. The partnership work has highlighted the need for an inclusive approach to all practice placement settings which facilitates the creation of a clear support structure for placement mentors/assessors. A standardised, explicit assessment process that contributes to progressive skills acquisition and the requirement that practice placement is fully integrated into the academic curriculum have, furthermore, been identified. Self-directed learning, self-assessment and reflective practice are professional skills which need to be viewed as outcomes of practice placement and the training of practice placement educators must be within a process that acknowledges and uses their experience.

**Keywords** - Practice placement education, dietetics, progressive skills acquisition.

## 1 Introduction

The education and training of dietitians, as with all health care practitioners, emphasises the development of clinical skills. These practical skills are considered key to professional competence. It is widely accepted that appropriate placement experience is considered the most effective method to develop the professional skills necessary to practice and succeed as a professional (Fry, Ketteridge and Marshall 1999) and, therefore, programmes of undergraduate study include practice placement modules which enable students to develop their practical skills and competence in a workplace environment before graduation (Mulholland et al. 2006). For trainee health professionals, this is typically in a clinical environment.

While the competences required to enter the profession are well described (INDI 2008; EFAD 2009), evidence for the best way for students to acquire the skills required and how this should be assessed in a progressive way is lacking.

Assessing clinical skill acquisition and level of competence is difficult for clinicians in all health professions including nursing, medicine and the professions allied to medicine (including dietetics). Despite the number of assessment methods described in the literature (see Hanley and Higgins 2005; Makoul 2001; Norman et al. 2002; Pender and de Loy 2004; Spalding 2000), providing fair and objective assessment and feedback that is appropriate for the stage of training that the student has reached, and that indicates a progression in development is challenging for most practice placement educators regardless of their level of training or experience. Assessment that promotes superficial learning is of little benefit and incompatible with the type of learning that takes place in the work environment. A number of different methods are required, most of which are formative in nature and which should include an element of self-assessment. Further to this, the curriculum of practice placement is often likened to that of a spiral, i.e. 'there is an iterative revisiting of topics, subjects or themes throughout the course' (Harden and Stamper 1999: 141). The experiential learning cycle and the spiral curriculum both place a lot of emphasis on the ability of the student to be able to reflect both on and in practice.

The UK Learning and Teaching Support Network (LTSN) Generic Centre in 2001 explained how formative assessment provides a framework for sharing educational objectives with students and its usefulness in charting students' progress was described in Juwah et al. 2004. Formative assessment generates feedback which can be used by the student to enhance

learning and by teachers to realign their teaching in response to their learners' needs. The LTSN asserts that 'formative assessment should be an integral part of teaching and learning in higher education'. It seems logical therefore, that formative assessment should be an integral component of the assessment of practice placement.

Much of the literature from medicine, nursing, dietetics and other health professions supports the use of direct observation as the preferred method for assessing clinical skills (see Battles et al. 1992; Dolan 2003; Norman et al. 2002; Pender and de Loy 2004; Williams, Klamen and McGahie 2003). However, criticism of direct observation is evident in the literature due mainly to the level of subjectivity involved (see Dolan 2003; Williams, Klamen and McGahie 2003). Despite this, direct observation remains the most popular method of assessment in the practice placement setting across the health professions with skilled observers considered as having the ability to make judgements on clinical performance. However, it is recommended that this is used in combination with other forms of assessment, e.g. reflective journals, written work, objective structured exams.

The task of finding the best tool to provide formative assessment in the practice placement setting remains problematic. Poor understanding of the assessment criteria and variability in the interpretation of assessment forms on the part of both assessors and students is anecdotally reported in dietetics, a finding similar to that observed in the assessment of student nurses undertaking practice placement (see Pfeil 2003). Completion of clinical competence assessment tools has been frequently reported by practice placement assessors as 'paperwork', i.e. a tedious formality rather than an integral part of student supervision and education (Norman et al. 2002). This is partly attributable to the perceived complexity of the assessment tools in use.

Much of the research on assessment tools has focused on the quest for objective measures of assessment that reflect the complex and contextual nature of practice placement (Mahara 1998; Williams, Klamen and McGahie 2003). It is necessary to recognise the complexity of the learning environment and acknowledge that assessment tools need to be developed that contribute to assessment, in a formative way, for both students and their educators.

The use of 'formative staged outcomes' has been promoted in the literature (see Chianese and Channon 2002) with three levels of ability described:

- a novice, with none or minimal specialist experience to reflect upon, who needs more direction and learns best from experiences of other team members
- a level 2 learner who needs to be encouraged to self-evaluate and perform deep level processing of information
- and a level 3 learner who can display the qualities of a newly qualified practitioner.

These models are helpful both in defining the level of development of a student and in indicating teaching and assessment strategies that apply to each level. The need for different teaching and assessment methods for different stages of placement has also been suggested by Botti and Reeve (2003).

In the current model of dietetic practice placement education in Ireland, a single block of practice placement of 26 weeks raises further problems with providing appropriate time for formative assessment. The assessment tool in use over the past years has been described anecdotally as difficult to work with and a review of the assessment process suggested is required. However, the exact nature of the problems associated with the assessment process have not been identified and little evidence exists as to the precise nature of the difficulties. This study examines practices in assessing students during placement with particular emphasis on how progressive skill acquisition is assessed and monitored with the objective of enhancing the experience for the student and improving learning outcomes.

## **2 Methods**

This is a descriptive survey set in the interpretative paradigm in keeping with the tradition of ethno-methodology. Dietitians ( $n$ , 113) and students ( $n$ , 23) involved in practice placement were surveyed using questionnaires and focus group interviews. Qualitative analysis of the data was carried out using thematic network analysis (see Attride-Sterling 2001).

## **3 Results**

A total of 69 (61%) questionnaires were returned from practice placement educator dietitians and 22 (95.6%) from the students trained by this group of dietitians. The dietitians undertaking student training varied in their professional experience and involvement in training, as highlighted in Table 1. It is evident that a wealth of experience with dealing with students exists amongst the practice placement educators with 53 (77%) having been involved in student training for more than 3 years.

**Table 1 Practice placement educators' experience in student training**

<b>Involvement in Practice Placement Education</b>	<b>n (%)</b>
< 1 year	6 (9)
1 – 2 years	10 (14.5)
3 – 5 years	23 (33)
> 5 years	30 (43.5)
<b>Current / past student training co-ordinator</b>	21 (14.5)
<b>Training undertaken</b>	
Post graduate qualification in clinical education	1 (1.5)
Short course (> 1 day) provided by employer / higher education institute	7 (10)
A number of one day courses provided by the higher education institute	5 (7)
A 1 day course provided by the higher education institute	2 (3)
Intradepartmental induction	34 (49.5)
None	20 (29)

Although there is a real lack of training in teaching and assessing students (only 22% reported having had formal training), a conscientious process to rectify this has been put in place, with each training centre offering intradepartmental induction. Some 71% of practice placement educators have either had some formal training or have availed of intradepartmental induction. However, 20 (29%) practice placement educators reported that they had no training on teaching or the assessment of clinical skills in students.

The thematic network analysis of data (see Watson et al. 2002) revealed six global themes (Table 2).

**Table 2 The six global themes derived from analysis of questionnaires and focus groups with practice placement educators and students**

1. Bridging the gap between academia and practice placement
2. The assessment scoring system should contribute to monitoring progress
3. The assessment process must be standardised and validated
4. Processes used to monitor skill acquisition need to be explicit, multidimensional and reflective of the complexities involved
5. Education for practice placement educators must be within a process which acknowledges and uses their experience and is specific and developmental to the assessment process being used
6. Self-directed learning, self-assessment and reflective practice are skills which need to be viewed as outcomes of practice placement

### 3.1 Bridging the gap between academia and practice placement

The students experience difficulty in changing learning environments and have a poor insight into what placement entails at the outset. It was reported by 45% that they were not sure what they needed to do to gain competence. Disparity appears to exist between the higher education institute (HEI) academic staff and the practice placement sites with a lack of guidance on the use of the assessment system suggested. Different interpretations of the assessment criteria exist and definitions of terms are not always clear. There appears to be poor understanding and acceptance among the practice placement educators of the ‘natural gap’ which exists between college and placement with practice placement educators believing there is a need to spend time revising initially so as to prepare students for patient encounters. Practice placement educators would like more information sharing about students and more flexibility or ‘power’ to make changes.

### 3.2 The assessment scoring process should contribute to monitoring progress

Terms used in assessment of progress such as ‘competent’ and ‘very good’ are not defined and variation between dietitians on understanding of terms exists. If a student is assessed



compared to a newly qualified dietitian, they do not receive any score in the early stages of placement; this is reported to be discouraging for the student and it does not give information on the progression towards competence. If, however, students are assessed for the stage of training, they are not compared to a predetermined set of criteria. Students then become distracted by a desire to achieve ‘very good’ and the idea of progression becomes hazy.

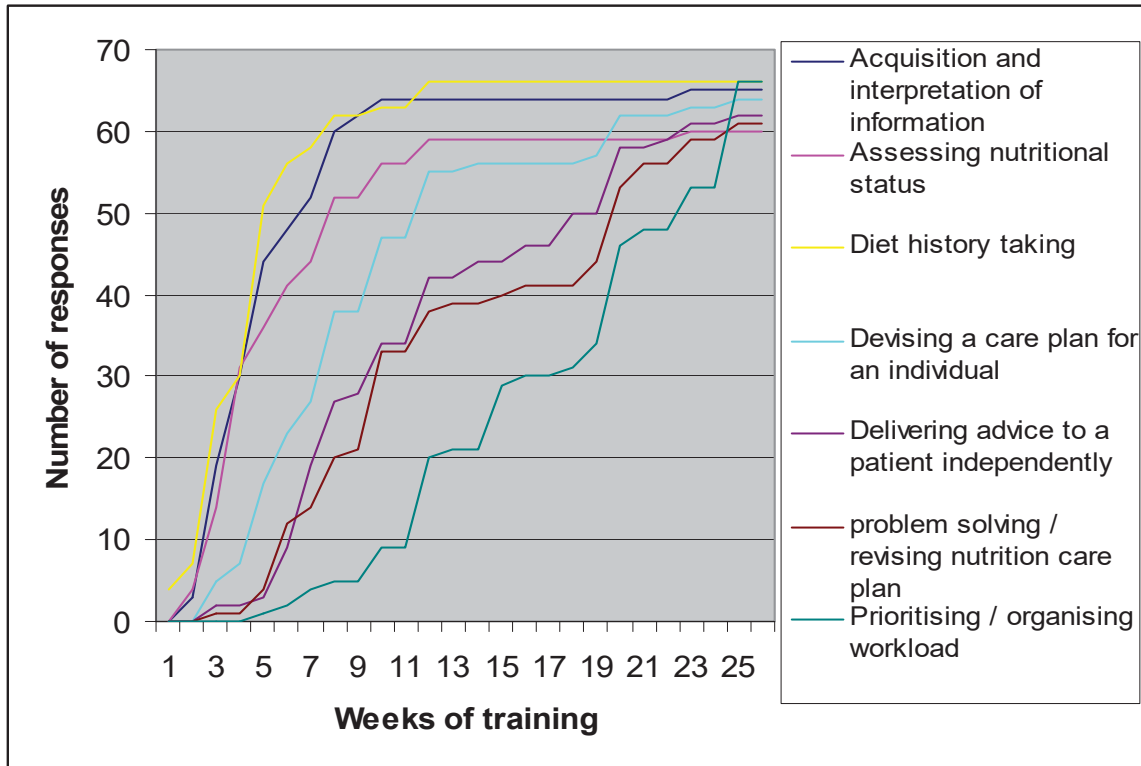
### **3.3 The assessment scoring process must be standardised and validated**

The assessment process used has many positive aspects as it covers a wide range of skills and its structured format guides assessment. As it is completed weekly, it allows for a record of training and regular opportunity for feedback, discussion and reflection on practice. The comments section is considered by both the practice placement educators and students as the most valuable part of the assessment process. A lot of variation exists both between and within practice placement sites and a high level of subjectivity is recognised by both the practice placement educators and students. The assessment tool does not assess all the necessary skills (attitude, ability to reflect and self assess and ability to self direct are not included). However, the assessment tool was considered quite comprehensive in relation to all other skills. Case studies and projects were the preferred written work. Feedback for the most part was very good with strengths and weaknesses correctly identified and specific advice given on how to improve. However some students found the feedback inadequate and a lot of negative feedback was reported.

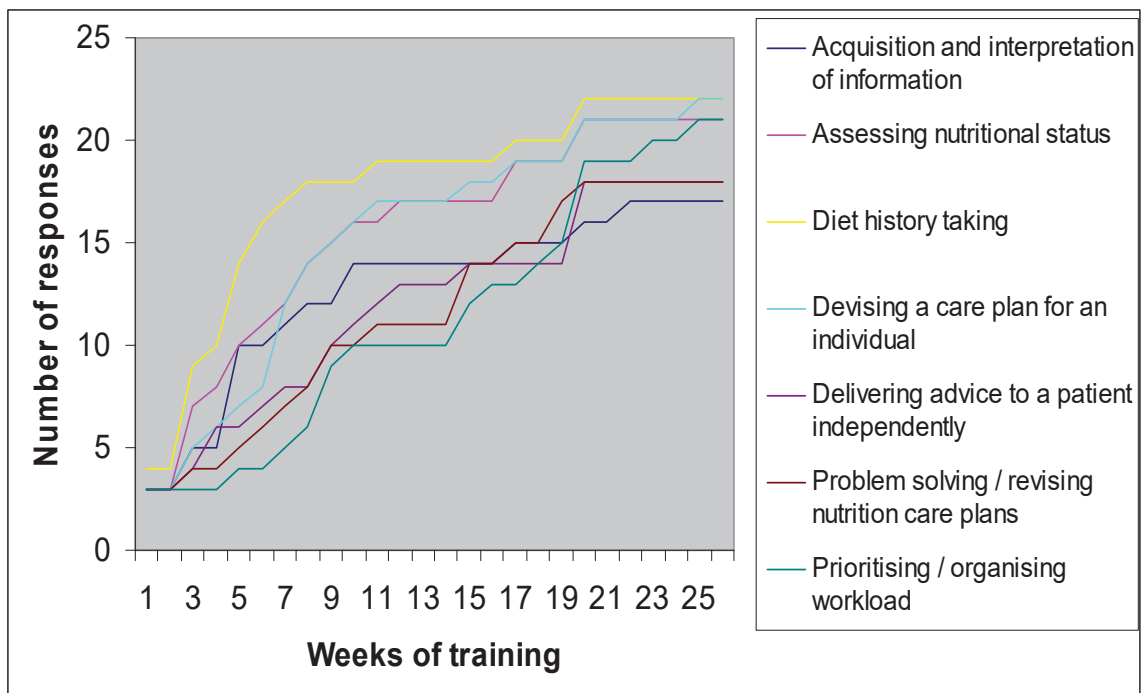
### **3.4 The processes used to monitor skill development need to be explicit, multidimensional and reflective of the complexities involved**

A number of beneficial strategies for monitoring skill acquisition were identified: learning styles assessment, reflective logs, feedback, progression guideline, feed-forward and self assessment. The best indication for students on their progression was the level of supervision received but the comments section of the assessment form also featured strongly. Observation of practice was required by students as integral to understanding the standards expected of them. Lack of clear criteria for different stages of training was an issue and ‘trying to assess all things together’ added to the complexity. The rate of skill acquisition and development of competence was reported by the practice placement educators to ‘depend on the student’. It was possible to identify particular stages of training when competence is reached in certain skills, indicating a use for staged assessment criteria and outcomes (see Figure 1 and Figure

2). The practice placement educators believed that progression guidelines and staged outcomes could be useful if used in a flexible way as a guide to focus learning rather than define expected outcomes.



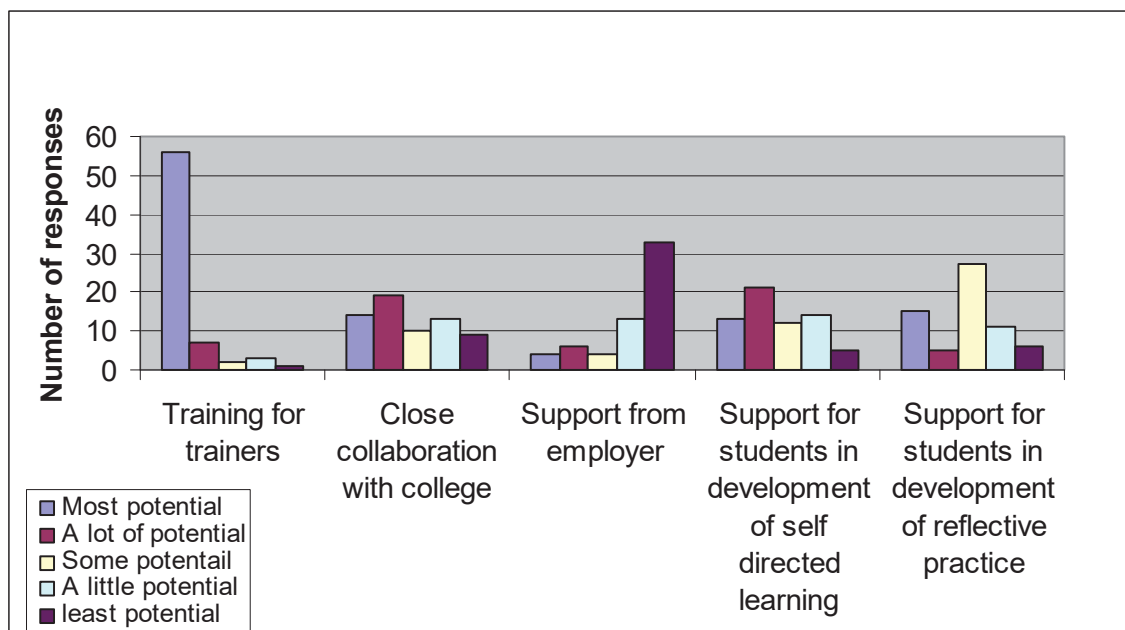
**Figure 1 Practice placement educators’ opinions of the stage of training at which students are expected to achieve competence in a range of skills**



**Figure 2** Students’ opinion of stage of training at which they were achieving competence in a range of skills

3.5 Education for practice placement educators must be within a process which acknowledges and uses their experience and is specific and developmental to the assessment process being used

Practice placement educators see training for themselves as having the greatest potential to assist in assessment (Figure 3). A lot of expertise in assessing students exists within each site. However, greater information and understanding of the assessment process is sought. In addition, the practice placement educators would like more power to make changes.



**Figure 3 Practice placement educators' opinions of what has potential to assist in assessment of students**

### 3.6 Self-directed learning, self-assessment and reflective practice are skills which need to be viewed as outcomes of practical training

The benefit to professional practice of developing skills in self-directed learning, self-assessment and reflective practice is recognised by both the practice placement educators and students alike though both groups acknowledge that they are unpractised in these skills. The practice placement educators would like students to be better able to self-direct their learning but report difficulty in knowing how to give the necessary information so that the student can self-direct. Students 'prefer to be told what to do' rather than to reflect or self-assess although there is evidence that these skills develop during practice placement

## 4 Discussion

The focus of this paper has been on describing how the study participants understand and make sense of the experiences of practice placement. It is important to note that the researchers' knowledge and experience have an impact on the findings (see Ritchie and Lewis 2007). Therefore, the experiences and opinions described are explored using the authors' understanding as well as that of the participants. The response rate of 62% and the level of

detail provided indicate the interest in the topic of practice placement education among those involved in the education of student dietitians.

Exploring the data under the six themes reveals information from both the perspective of the practice placement educators and the students in relation to the challenges and the strategies to meet these challenges that the assessment of skill acquisition raises. Strong patterns with sound theoretical grounding have emerged.

The first of these raises the ‘competence’ versus ‘performance’ debate. The distinction between competence as being able to ‘show how’ and performance as being able to ‘do’ is described by many researchers (see Rethans et al. 2002; Watson et al. 2002; Wilson 2007). It makes apparent the gap that students need to bridge when moving into practice placement and highlights the lack of understanding of this ‘natural gap’. The practice placement educators believe the HEI staff have a different understanding of the students’ needs on entering placement and as a consequence spend a lot of time revising theory and bringing the ‘students up to speed’ so that they are ready for patient encounters. They also complain of lack of clear guidelines on implementation of the assessment process in the placement setting. The literature also reports similar disquiet between academia and practice placement; ‘the challenges involved in assessing practice were perceived to be compounded by limited active participation of academic staff in clinical practice and restrictive university regulations’ (Norman et al. 2002: 135). Issues such as ‘lack of power to make changes’, poor level of post-graduate training, procedural inconsistency, unclear definition of terms and high subjectivity all indicate the need for training the practice placement educators and for collaboration between the HEI and the practice placement settings on all issues pertaining to student training and assessment. Such training could facilitate understanding and collaboration between the HEI and the practice placement sites, leading to agreement on the needs of students on the commencement of practice placement.

Self-assessment, self-directed learning and reflective practice are well recognised as important components of the deep learning and professional development that takes place during practice placement (Andrade and Du 2007; Brigden and Sackville 2006; Epp 2008). Both practice placement educators and students in this study were able to identify aspects of each of these learning strategies that they find beneficial. However, neither group is comfortable with the practice of these, as the students have not had opportunity to practise them beforehand. Similar difficulties in undergraduate students when it comes to self assessment, self-directed learning and reflective practice have been described (Burton 2000;

Dornan et al. 2005; Langendyk 2006). Many of the practice placement educators reported that they themselves did not possess the necessary skills to be able to direct their students appropriately and would like students to be more accomplished in these skills at the start of training. Although practice placement provides an opportunity to develop these skills, health care practitioners must recognise that there is a need to continue the development of these skills throughout a professional career (Wilson 2007). However, the undergraduate assessment process should, in itself, provide a foundation for post registration self assessment and reflection (Wilson 2007).

Training for practice placement educators and close collaboration with the HEI seem to hold the solution to a number of the challenges that this study has highlighted. The practice placement educators have currently developed strategies to meet the challenges described. Interpretation and adaptation of the assessment process to suit needs, development of assessment tools, with particular emphasis on formative assessment and strategic planning of placements are some of these developments. Cognisance of this work and of the significant experience that exists among practice placement educators must be acknowledged. Training for those engaged in practice placement education should predominantly be familiarisation with the assessment process (Williams, Klamen and McGahie 2003; Wilson 2007). This study strongly supports this view but also emphasises the need for a collaborative process which includes sharing of power to develop such a process.

The basic structure of assessment within the practice placement setting which includes direct observation, frequent formative assessment and feedback, and the use of a detailed assessment tool are in line with best practice guidelines in the literature (Williams, Klamen and McGahie 2003; Wilson 2007). The practice placement educators have also developed strategies for dealing with difficulties that arise during practice placement, e.g. strategically using educators of different ability when planning a timetable, introduction of additional assessment tools, intradepartmental training and guidelines for assessing students. Unfortunately, however, there is much variation in interpretation and implementation of the assessment process and the assessment tool in particular. This is not unusual; a review of assessment in nursing also found 'lack of consistency and uncertainty in the assessment process' (Dolan 2003: 132). 'Lack of clarity in assessment documentation' has also been reported across a number of health professions (Mulholland et al. 2006: 8). Collaboration on the development of the process and training in the use of the system will provide standardisation and the introduction of more objective measures.

The range of skills to be assessed and the individual requirements of each student in terms of learning style and rate of skill acquisition indicate the complexities involved in assessing skill acquisition. As described in the literature, skill acquisition is multidimensional and a number of different assessment tools and methods are needed to give a fair and accurate representation of progress (Norman et al 2000; Williams, Klamen and McGahie 2003). Stage-specific assessment criteria and progression guidelines have also been tried with some success. However, the practice placement educators believe that rate of skill acquisition is too individual to form distinct time categories for achievement of competence in different skills. There are echoes of this sentiment in the literature. Little is known about the factors that facilitate acquisition of certain skills and there are important differences in the way novices with different levels of skill and ability develop professionally (Botti and Reeve 2003). However, when asked to indicate a time for achievement of competence in a list of individual skills, a definite trend was indicated. A high level of skill attainment is achieved by many in certain skills early on, whereas other skills develop in the later stages of training (see Figure 2 and Figure 3). Similar work, such as that of Pender and de Loy (2004) has reported a high level of skill attainment by the mid point of practice placement. Systematically increasing the complexity of tasks can help to monitor skill development (see Botti and Reeve 2003) and formative staged outcomes were observed to be very useful as indicators of progress (Chianese and Channon 2002). This would suggest that stage-specific assessment criteria could be developed and tools such as progression guidelines would be of use provided that they are sufficiently flexible to accommodate individuality.

It has been argued by Raelin (2000) that work-based learning is different to classroom learning in a number of important ways. These differences include the view of learning as facilitating the creation of knowledge as a shared and collective activity, one in which people discuss ideas and share problems and solutions. As has been demonstrated earlier in this paper, the perspectives and concerns of the practice placement educator are integral to the success of this process. The research highlights the importance of preparing practice placement educators for the work-based learning relationship and providing guidelines of what can reasonably be expected from both parties. Shifting the delivery of education from the HEI setting into the workplace requires considered attention, and the facilitation of a shared sense of ownership of the learning aims and objectives. Critical to the success of this process is the shared understanding of any criteria used for assessment both among practice placement and HEI assessing staff (see Saunders and Davis 1998). The alignment of learning

outcomes, learning methods, assessment strategies and criteria thus needs to emerge from a constructive collaboration between the learning partners.

In response to these issues, and informed by the earlier research process, the programme team and personnel from the Learning, Teaching & Technology Centre in DIT initiated a development of practice placement learning outcomes and performance indicators, staged competence criteria for monitoring students on placement, staged formative and summative assessments, and general guidelines for practice placement education.

This process involved a collaborative approach between DIT personnel and the practice placement educators, e.g. professional competences were converted by the practice placement educators with support from the DIT personnel into six practice placement learning outcomes. Performance indicators, staged competence criteria and linked assessment forms were then developed and reviewed. This process was complemented by the development of a staged assessment of the practice placement, combining summative and formative assessment.

A new form of documentation – a student reflection log – was introduced to assist with learning, reflecting and attaining competence during practice placement. This is designed to be used at the beginning of each new rotation so that further areas of work required are highlighted and agreed upon by the student and the placement educator. Informal feedback from current students and trainers is positive.

A vital aspect of this work-based learning partnership has been the ‘Train the Trainers’ Programme, conducted jointly by the professional dietetics staff and the staff of the Learning, Teaching & Technology Centre. Two educational symposia were held in DIT as part of the development and review of the performance indicators and competence criteria, and further training workshops were held with in excess of 160 practice placement educators. The overall aim of these training sessions has been to clarify, enhance and support the role of the practice placement educator so that student learning during practice-based placements might be enhanced. A specific area of focus has been assessment and the provision of feedback to students.

The partnership work has highlighted the need for an inclusive approach to all practice placement settings, which facilitates the creation of a clear support structure for mentors/assessors, and to guarantee that practice placement is fully integrated into the academic curriculum. A vital, future aspect of this inclusive approach will focus on the evaluation of the success of this process from both a learner and educator perspective.



## **5 Conclusion**

This study is an attempt to record current practice that exists in the practice placement education of Irish undergraduate dietetic students, highlighting good practice as well as the difficulties that can exist. In addition, it provides an interpretation of the understandings, attitudes and beliefs of those involved as a precursor to the development of practice placement education.

The good practice highlighted reflects recommendations in the literature (Williams, Klamen and McGahie 2003; Wilson 2007). Direct observation is carried out and followed by formative feedback with the use of a detailed assessment tool. However, an over-reliance on this assessment method was observed. A range of assessment methods leads to more objective assessment and provides better feedback to students on their rate of progression across a wider range of skills (Fry, Ketteridge and Marshall 1999). For example, skills such as reflective practice, self assessment and self-directed learning require methods other than direct observation to be assessed appropriately.

In summary, the main challenges to assessment of skill acquisition highlighted by this study and the strategies identified to deal with these challenges are linked to three principal issues:

1. Standardisation – the variations in practice create much confusion and difficulty for both practice placement educators and students. The process requires standardisation at many levels: between training sites, within training sites, within tools used and grading system used. The process could benefit from suggestions in the literature such as use of a wider number of assessment tools.
2. Validation – the assessment tool used was the source of much difficulty. Questions were raised about its construct validity but it was also identified that it did not contribute to monitoring of progress.
3. Training of practice placement educators – a large number of educators in the workplace have had little or no formal training and they themselves highlighted the need for training. The training however needs to include collaboration on development of the assessment process. This will give ownership to the educators of the assessment process while simultaneously creating better understanding between the HEI and the practice placement sites.

The issues identified in this study have now been addressed with the development of practice placement learning outcomes and performance indicators, staged competence criteria for monitoring students on placement, staged formative and summative assessments and general guidelines for practice placement education. Training of practice placement educators and continuous evaluation of the practice placement assessment process must remain an integral component of the professional training of student dietitians.

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