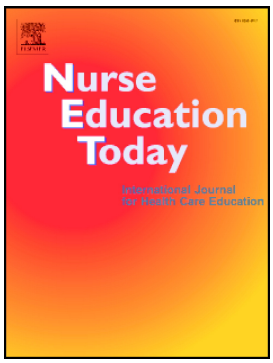

Nursing and midwifery students' perception of learning enablers and gains in the first semester of their BSc programmes: A cross sectional study

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NURSING AND MIDWIFERY STUDENTS`PERCEPTION OF LEARNING ENABLERS AND GAINS IN THE FIRST SEMESTER OF THEIR BSc PROGRAMMES: A CROSS SECTIONAL STUDY.

WORD COUNT: 4990 WORDS

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INTRODUCTION

The student experience in the first year of university is pivotal to successful adaption to the higher education environment and shapes their engagement throughout their degree (Kift 2015). Students' feedback on this experience is essential in designing curricula. Traditionally student evaluation methods tend to focus on the efficacy of faculty teaching which can enable educators to gauge how well students adapt to the transition to higher education. However students can also make realistic appraisals of their learning gains from aspects of programme and class pedagogy and of the pedagogical approaches employed (Douglass et al. 2012, Stanford et al. 2017). Learning gain can be broadly defined as an attempt to measure the improvement in knowledge, skills, work-readiness and personal development made by students during their time spent in higher education (HEFCE 2015). Feedback on this can allow faculty to identify elements that support student learning and those that need improvement. This is particularly useful for faculty that are undergoing a curriculum review process and are revising their learning objectives, pedagogy and forms of assessment. At present however, while there is growing interest around the world in measuring how much students in higher education learn, research in this field in the UK and Ireland is in its infancy (Coates 2014).

Background

In Ireland, the structure of nursing and midwifery degree programmes is modular. This development occurred in order to make credits, awards and ultimately licensure reciprocal and transferable between European member states. While modular evaluation is common, there has only recently been a refocus on programme evaluation. This resurgence in research interest reflects anxieties that degree coherence, progression and deep learning is at risk in modular degrees (Jessop and Maleckar 2014). Modularisation is deemed to promote an over-reliance on summative assessment at the cost of formative assessment, which is considered the most powerful single influence enhancing student learning (Hernandez 2012). Modular structure acts also against the use of 'feed-forward', where students become actively engaged with feedback and

must act upon it to improve their learning. Furthermore, some believe that modules lead students to compartmentalise learning, reducing their capacity to make connections across modules (Jessop et al. 2014).

There is also evidence that students' needs and learning characteristics change and evolve as they progress through a programme (Prithishkumar and Michael 2014). Therefore, as well as overall programme and individual module evaluations, stage evaluations that focus on a given year of a programme, have the potential to identify student needs based on their experience and level of development. In particular, the critical experience of Year 1 students should be evaluated.

Student Evaluation

When students are asked to judge the efficacy of teaching, their evaluations frequently offer poor feedback for faculty. This is perhaps because of lack of criteria provided to students on which to base their judgements or students may be biased by factors such as a lecturer's personality, the size of the class or the nature of the subject (Uttl et al. 2017). While interesting, this offers limited feedback to faculty as it does not include the impact of these qualities on the learning of the student. Seymour et al (2000) argues that it is more productive to ask students how much they have gained from specific aspects of the class than what they liked or disliked about the teacher and pedagogy. Concentrating the focus of the evaluation process on perceived learning gains allows faculty to assess how much students judge those aspects of the course that their teachers identify as important to their learning (by their question selection) enabled their learning.

As stated previously, the concept of learning gain is only beginning to be explored in the Irish and UK higher education sectors and studies around learning gain rather than student evaluation of teaching (SET) are warranted. Learning gain measures can support higher education faculty to increase their understanding of how to facilitate students' learning. They can also be used to

support accountability, promote transparency and enable comparability of the outcomes of higher education.

This study aims to address this educational research gap. It will examine student assessment of their learning gains in semester one of the first year of the BSc nursing and midwifery programmes. Semester one was examined as it is composed of six theory modules delivered over the 12-week semester. Semester two is quite different with an eight-week clinical placement and four weeks of theory. Therefore, the experience of students on these two semesters would not be similar.

The primary aim of this study was to explore students' perceptions of their learning gains to identify factors that support student learning and identify elements that need improvement if specific learning needs are to be met.

METHODOLOGY

Design

A cross-sectional quantitative survey design which included structured open questions was used to conduct this study. Although self-reported gains are sometimes regarded as having dubious validity compared to so-called "direct measures" of student learning, student surveys when designed properly can offer a valuable and more nuanced alternative in understanding. In recognition of the limitations that a survey presents, in this study it offered an efficient, low-cost method to obtain the learning gains of a large representative sample that can be generalised to a wider population and fits with the purpose of our study. The use of structured open questions following closed questions also allowed respondents to elaborate and expand upon those questions, bringing in the strength of qualitative transferability to this study.

Setting

This study was conducted in a large Irish public university that offers four undergraduate degree programmes (majors) in general, mental health, children's and general nursing and midwifery. The six 5-credit theory modules in semester one of first year are made up of shared (biosciences, study skills, psychology and interpersonal skills), discipline-specific (foundation knowledge and clinical skills) and elective modules (modules from other non-nursing programmes). The study was exempted from a full ethical review by the university ethics committee (HREC: LS-E-15-131-Redmond) as the study falls under the label of 'standard educational assessment'. Students were given study information in advance of completing the survey and their participation was considered consent. However, as the students were considered a vulnerable group, assurance was given that their grades would not be affected by participation or non-participation and that effort would be made to maintain anonymity and confidentiality.

Sample

A total of 226 students from the four majors who had just completed semester 1 of the first year of their degree at the university were invited to participate. 206 (91%) students responded to the survey.

The Survey Instrument

Students' perception of teaching and learning were examined using the Student Assessment of Learning Gains (SALGs) questionnaire (Seymour et al. 2000). This instrument consists of a series of closed questions which explore perceived student gains in skills, cognitions and attitudes. The questionnaire was adapted for a semester rather than a module evaluation. The tool is divided into 8 subscales: four focus on enablers of learning and four on learning gains (see Table 1 below). For each of the 8 aspects of the tool, 3 – 9 statements are prepared, yielding a total of 44 items. These items are scored on a Likert scale ranging from 0 to 4 where 0 = no help/gain to 4 = excellent help/gain. The

SALG instrument also includes a series of open questions inviting students to comment in each section. Demographic questions were also included. **Insert Table 1 here**

The validity of the SALG instrument has been established by comparing this tool with other student evaluation methods: specifically interview and focus group data and by triangulation with qualitative responses obtained with this instrument (Gutwill-Wise 2001). The tool was modified to reflect the salient learning objectives for semester one developed by our school and the survey was populated with our own activities which promotes strong instrument content validity. In addition, the modified tool was assessed by four content experts in the school (educationalists) and refined accordingly. The questionnaire was also tested prior to administration for face and content validity using the cognitive interviewing technique (Izumi et al. 2013), and modified accordingly. Internal consistency for question items was tested revealing a Cronbach α coefficient > 0.7 for each item. Internal consistency for the tool is 0.94.

Data Analysis

Quantitative data analyses were carried out using SPSS version 20 (SPSS Inc., Chicago, IL, USA). Descriptive data analyses were undertaken using frequencies and measures of central tendencies and variability. Due to the ordinal level and non-normal distribution of data (assessed by Kolmogorov-Smirnov test), non-parametric testing was chosen with 0.05 used as the critical level of significance.

A directed content analysis approach was used to analyse the open-ended questions (Hsieh & Shannon 2005). Two researchers coded separately to enhance the validity of the process. Short descriptive statements formed the unit of analysis. Each response was read carefully and coded using the predetermined survey framework. Analysis aimed to seek commonality or divergence in respondent's responses and how they related to learning enablers

and learning gains. The qualitative descriptions provide supporting evidence and further meaning, context and interpretation to complement the statistical reporting.

RESULTS

Demographic data

The demographic profile of the sample is presented in Table 2. The respondents are mainly young Irish female students undertaking their primary degree in general nursing. The majority (77.2%) have entered the programmes directly following completion of the Irish Leaving Certificate (exit of 2nd level education). **Insert Table 2 here**

SALG evaluation

As outlined, respondents were instructed to rank each item in the eight subscales from 0 (lowest) to 4 (highest) in terms of its perceived value in aiding their learning. The total SALG score and each subscale score was calculated and divided by the number of items therein. The mean total SALG score was 2.88 (SD .477; range 0-4) indicating that students felt they had made satisfactory to very good gains in their learning by the end of semester 1. Figure 1 displays the mean SALG score for each of the eight subscales. Each subscale was ranked above satisfactory (score >2). The greatest perceived gain of the semester was in 'impact on student attitudes', receiving an overall mean score of 3.13 (3 = very good; SD = .73). **Insert Figure 1 here**

The percentage of scores in each of the five response categories for each subscale is presented in Table 3 below. Over 54% of students rated each subscale as being of very good help/gain or excellent help/gain to their learning. This figure rose to 70% of students for the subscales: impact on attitudes, the teaching and learning approaches used and the integration of learning. Again, the subscale 'impact on attitudes' received the greatest percentage of excellent scores (45.3%). In contrast 16.9% of students rated their skills development as

less than satisfactory in semester 1. Similarly, 11.9% of students found that the general information received provided little or no help to their learning and 10.4% felt that their understanding of modular content was not satisfactory on completion of the semester. **Insert Table 3 here**

To explore further which item in each subscale contributed to learning we examined each item response. Table 4 below provides a clear outline of the percentage of scores in each of the 5 response categories for all items (44 items) grouped under their respective subscales. The final column provides a 'Rating Average Score' of each item illustrating those with the most and least impact. **Insert Table 4 here**

For clarity, the major findings on individual items are presented in two sections: those that focus on enablers of learning followed by a section on student self-reports of learning gains achieved. The qualitative data from open-ended questions is included and provides some greater contextual understanding of the quantitative findings.

Learning Enablers:

Teaching and Learning Approaches

The teaching and learning subscale yielded a mean score of 3.02 indicating that the approaches used were considered 'very good' for helping learning. While, all items of the teaching and learning approaches were positively evaluated (Table 4), the greatest enablers were clinical skills laboratory (CSL) teaching followed by online learning materials and then lectures. Participating in CSLs was reported by 69.8% as an excellent and 25.4% as a very good enabler of learning. Qualitative data substantiated these trends with many of the comments related to the value of clinical laboratory teaching for helping integrate theoretical learning into practice for preparation for clinical practice:

Practical labs were most useful as we put our theory into practice.

I felt that for me more practical work and interaction was needed to help put our knowledge into practice. I felt that the clinical labs were brilliant for that.

High levels of agreement were also associated with online learning materials as an excellent (30.7%) and very good (41.5%) enabler of learning. The student comments focused on the value of online materials for facilitating student engagement in their own learning.

Student's evaluation of lecture attendance as an enabler of learning was noteworthy with 35.4% respondents ranking this as very good and 28.2% as excellent. It was also encouraging that most students positively agreed that the teaching approaches used in lectures were very good (42.9%) to excellent (21.9%) enablers of learning. Students referred to learning activities in lectures as 'engaging and fun' and being presented in interesting ways, citing interactive links, diagrams and lecturer's stories as factors that helped their learning. The students also evaluated the coherence of the modules positively in terms of the fit between content, assignments, learning activities and resources with many indicating that they appreciated the blend of learning activities provided in modules and across the semester.

The pace of the modules received the lowest rating with a summative score of 2.53. While the pace was ranked as very good to excellent by 50% of the students, 36.5% rated this as only satisfactory, and the remainder as of little or no help to their learning.

<u>Assessments</u>

Overall, assessments received a summative mean score of 2.82 labelling these as a satisfactory enabler of learning. Students evaluated summative assignments positively with 26% of respondents reporting these as excellent and 48.3% as very good enablers of learning. The link between module content and assessment appeared to be clear to students. In addition, the number and spacing of assessments was reported by over 90% of the students as appropriate ranging from satisfactory to an excellent help for learning.

Multiple Choice Questions (MCQs) were reported as having the highest impact for helping learning in the assessment subscale. This assessment type was considered as excellent help for learning by 52.5% and very good by 35.8%. It is significant that only one student reported them as a negative. Overall students felt that the online nature of certain MCQ's was useful as they could be approached at a pace suitable to the individual student.

A number of students recognised the value inherent in partaking in an assessment process. They outlined that it consolidated learning and challenged procrastination:

> *Having regular assessments forced us to learn what we would usually postpone.*

> *The fact that we had several assessments during the semester was good too as it decreased the pressure we have for the final exam.*

36.5% of participants considered the feedback after assessments as very good for learning while 24.1% ranked it as excellent. However, 15% considered it as of little or no help for their learning. Several students noted areas for improvement here. Most prominent amongst these were the desire for greater feedback, quicker access to results and more practical written assessment topics.

Support given

Staff in the clinical skills laboratories

The highest level of agreement and greatest impact (mean score 3.46) indicated support from staff in the CSL as a very good (29.4%) to excellent (60%) enabler of learning. This strongly positive evaluation was equally represented in the qualitative data. Students attributed working with staff in CSL as providing a 'comfortable environment' where they 'could ask questions' and 'interact with staff and other peers'. The students reported they felt this support helped their learning in preparing for clinical placements. Clinical laboratory teaching staff (facilitators) were described as 'approachable' 'understanding' and 'very patient in teaching'. The following illustrate these evaluations:

Having clinical labs was a big help as we got a chance to put theory into practice.

It reinforced what we learnt in class.

The clinical labs were most helpful as they were the only time you could have one on one.

Many of the comments indicated a desire for more clinical skills teaching in the programme.

Peer support

Working with peers and student teams was ranked as the second most popular enabler of learning in the support subscale. 30% considered this an excellent help; 38% 'very good' and 15% considered this as satisfactory. The qualitative data was useful to provide some further context to the type of peer support that enabled learning. Peer mentors were described by many students as 'great' 'excellent' and 'very helpful' and many comments focused on their role to help

students engage in how to study. Peer support outside of the classroom environment appeared to be very valuable. Many stated it helped learning by its opportunity to 'bounce ideas' 'gain encouragement' and hear other student's perspectives'.

Student teams as an enabler of learning was a predominant theme in the commentary data.

> *Group work and any opportunity I was given to work with peers supported my learning progression immensely.*

> *Working with peers was very rewarding and helpful especially during exam preparation.*

> *Working with smaller groups rather than all of stage one students' (with all cohorts) was more beneficial and easier to learn.*

Several students considered team working skills as critical for professional practice with many students commenting that they would like more peer group work in their course. However, 16% reported peer support as a negative enabler of learning, finding working in groups challenging.

Learning Gains

Learning gains were explored from the perspective of development of understanding and acquirement of generic skills, attitudinal changes and integration of content.

Gains in Understanding and Generic Skills

In these subscales, the greatest gains recorded were: communication skills (mean score 3.36) and team work (mean score 3.1). Over 88% of students felt they had made very good to excellent gains in their communication skills over the semester, while 78% felt equally positive towards their gains in their understanding of teamwork:

> *Interpersonal skills related to clinical placement were very beneficial.*
>
> *I gained a lot of confidence to deal with interpersonal issues that arose*

However, areas of frustration with practising teamwork skills and where improvements could be made were expressed by a minority:

> *Group projects were always complicated.*
>
> *I don't think they actually taught us how to work as a team.*
>
> *It brings more arguments than team spirit.*

Effect on Attitude

Participants reported a very positive impact on their attitudes overall (mean score 3.15). Indeed, all items on this subscale received a mean rating of > 3 (very good). Over 80% of respondents felt they were positively enthused towards their discipline and had gained greatly in confidence in their ability to perform as a nursing/midwifery student and in their comfort level in doing so. This is reflected in the following comments:

From the enthusiasm of the lecturers I found the field a lot more interesting and couldn't wait for placement.

I have a much more positive attitude towards nursing now that I am less apprehensive about placement and felt more competent and confident about nursing being the right choice for me.

My belief in my desire to pursue a career in nursing was shaken and subsequently reinforced over the course of the semester.

Integration of Learning

Participants also referred to the integration of learning and felt that it was possible to connect key module ideas with other knowledge (mean score 3.08). Students felt that lab based preparation was particularly effective as a support for clinical placements. There appeared to be a real integration of practical skills and knowledge. In addition, students also alluded to the transferable nature of much of their learning and the wider integration of new knowledge and skills to other areas of life:

The psychology skills helped me interact with family and friends.

Friend making skills. I am now a social butterfly…

DISCUSSION

This study provides an insight into the perceptions of first year undergraduate nursing and midwifery students of their learning gains during the first semester of their degree. To our knowledge this is the first use of the SALG metric to measure learning gain in nursing and midwifery educational research. It demonstrates that students can assess the learning quality of their programme, in terms of both module pedagogies and of the pedagogical approaches taken to

deliver the programme. They can identify both enablers and detractors of learning and rate their learning gains.

The results suggest that the teaching approach that students viewed as the greatest enabler of learning was CSL sessions. Clinical education is a fundamental component of undergraduate nurse education, whereby students apply both theory and learned skills (McCutcheon et al. 2015). This finding is consistent with other studies whereby both students and teachers identified the CSL useful and important for the development of clinical skills (e.g. Houghton et al. 2012). The support of and for learning identified by students in the CSLs may be due to a number of factors as outlined by Haraldseid et al. (2015) as physical, psychosocial, and organizational. The use of small group teaching, the consistency of the team over the semester and the authentic nature of the learning environment (a simulated ward, the use of standardised patients and scenarios) may all have contributed to making this a quality learning experience for students. It is crucial to develop confidence and competence in students preclinically as it is recognised internationally that there is a reduction in opportunities available for nursing students to learn clinical skills in clinical practice (Traynor et al. 2010).

Working as part of a small group was found to be helpful to many and a challenge for some. Collaborative learning both within the CSL and lectures has been shown to increase student engagement, and when designed and facilitated well also enhances learning (Meyer 2014). Student comments reflect the importance of the affective elements of this pedagogy, where getting to know each other and feeling safe and comfortable are paramount. In common with many Higher Education institutions (Andrews and Clark 2011) this college uses a peer mentoring system, where 2nd year students enable the socialisation of first years. Again, from the many positive comments on this resource, students view this as an enabler of learning.

This study also highlighted that online learning materials were highly rated as enablers of learning. Online materials included integrated text and media resources in the biosciences modules. These tools incorporate constructivist and cognitive theories of multimedia learning (Mayer 2009) with Universal Design Principles (Meyer et al. 2014) to promote active student engagement. There are many ways for students to interact with the biosciences *e*-content, for example "drag and drop", "labelling and "fill in the blank" exercises etc. The provision of dynamic feedback following student responses is also provided which is recognised as a very compelling form of learning (Conradi et al. 2007). Blended learning was also a component of the clinical skills education of these students. For example, video clip material was used to enhance students' self-efficacy when communicating with potentially difficult patient groups and reusable learning objects were used to instruct in drug administration. McCutheon et al., (2015) in their systematic review showed that online learning for teaching clinical skills is no less effective than traditional means, but more research is required to reach a conclusion on blended learning approaches. This study provides some evidence on how the ability to review blended content at own pace and in own time is deemed to facilitate student learning.

In relation to assessment strategies, students rated multiple choice questions highly as learning enablers. This agrees with published work examining student performance using formative MCQs (Holmes 2015). MCQs are also an attractive option for summative assessment of large classes as student responses can be automatically graded thus providing quick access to feedback and performance. This asset was welcomed by many students as enabling their learning whereas the delay in receiving feedback to written assignments was criticised. The early low-stakes MCQ assessments promoted early engagement with module content and reduced anxiety for many which should ease student transition into the higher education environment (Foster et al. 2012).

Students also reported the extent to which they believe they made gains in cognitive, generic and personal skills over the semester. The development of communication and team-working skills received the highest rating. Employers prioritise these 'transferable' skills and the relevance of such skills for nursing

and midwifery graduates is recognised by professional accreditation bodies. While these skills were taught in a discipline-specific context, students reported early use of these in other areas of their lives. The positive impact of the semester on student attitudes demonstrated that they considered that they had selected the right profession and felt confident in their ability to "be" a nurse/midwife. This burgeoning development of professional identity is welcome and shows that students are beginning to internalise some of the core values of their profession (Larson et al. 2013).

While other generic skills gains were more modest it is worth considering that this is first year and perhaps as students journey through their programme they will exit with these skills.

Limitations

This was a modest scale evaluation study based on a convenience sample in a single site which limits generalisability. The study relied on students' self-reporting their learning gain. Objective measures of an increase in learning were not collected. In addition, long-term retention of learning gained was not assessed.

CONCLUSION

This paper explored students' perceptions of their learning gains during the first semester of their nursing and midwifery BSc degree programmes. Students determined factors which enhanced their learning experiences and identified others that were less meaningful to them. This information can allow faculty to make changes in teaching and learning practices to further increase student learning as well as enhance the quality of their programme. This will prove very useful for all institutions in their curricular review process.

REFERENCES

Andrews, J. & Clark, R. (2011) Peer Mentoring Works: How peer mentoring enhances student success in Higher Education. Aston University, Birmingham.

Coates, H. (2014) *Higher education learning outcomes assessment: international perspectives,* Peter Lang publishers, Frankfurt.

Conradi, E., Poulton, T. & Round, J. (2007) Teaching decision-making skills through inexpensive virtual scenarios. In *Computers and Advanced Technology in Education.*Beijing, China.

Douglass, J., Thomsom, G. & Zhao, C. (2012) The learning outcomes race: the value of self-reported gains in large research universities. *Higher Education,* 64: 317-335

Foster, E., McNeil, J. & Lawther, S. (2012) Exploring New Students' Conceptions of Engagement and Feedback. In *Improving Student Engagement and Development through Assessment: Theory and Practice in Higher Education.*(Clouder, L., Broughan, C., Jewell, S. and Steventon, G. eds.) Routledge, London, pp. 32-44.

Gutwill-Wise, J. (2001) The impact of active and context-based learning in introductory chemistry courses: an early evaluation of the modular approach. *Journal of Chemical Education,* **78**(5), 684.

Haraldseid, C., Friberg, F. & Aase, K. (2015) Nursing students' perceptions of factors influencing their learning environment in a clinical skills laboratory: A qualitative study. *Nurse Education Today,* **35**(9), e1-e6.

HEFCE (2015) Learning gain in higher education. Rand Europe, Santa Monica, Ca.

Hernandez, R. (2012) Does continuous assessment in higher education support student learning. *Higher Education,* **64**, 489-502.

Holmes, N. (2015) Student perceptions of their learning and engagement in response to the use of a continuous e-assessment in an undergraduate module. *Assessment & Evaluation in Higher Education,* **40**(1), 1-14.

Houghton, C.E., Casey, D., Shaw, D. & Murphy, K. (2012) Staff and students' perceptions and experiences of teaching and assessment in Clinical Skills Laboratories: Interview findings from a multiple case study. *Nurse Education Today,* **32**(6), e29-e34.

Hsieh, H. & Shannon, S. (2005): Three approaches to qualitative content analysis. *Qual Health Res* **15**, 1277-1288

Izumi, S., Vandermause, R. & Benavides-Vaello, S. (2013) Adapting cognitive interviewing for nursing research. *Research in Nursing and Health,* **36**, 623-633.

Jessop, T., El Hakim, Y. & Gibbs, G. (2014) TESTA in 2014: a way of thinking about assessment and feedback. *Educational Developments,* **15**(2), 21-24.

Jessop, T. & Maleckar, B. (2014) The influence of disciplinary assessment patterns on student learning: a comparative study. *Studies in Higher Education,* **4**(4), 696-711.

Kift, S. (2015) A decade of transition pedagogy: a quantum leap in conceptualising the first year experience. *HERDSA Review of Higher Education*, 2, 51-86.

Larson, J., Brady, M., Engelmann, L., Perkins, I. & Schultz, C. (2013) The formation of Professional Identity in Nursing. *Nurse Education Perspectives,* **34**(2), 138.

Mayer, R. (2009) *Multimedia Learning,* Cambridge University Press, Cambridge.

McCutcheon, K., Lohan, M., Traynor, M. & Martin, D. (2015) A systematic review evaluating the impact of online or blended learning vs. face-to-face learning of clinical skills in undergraduate nurse education. *Journal of Advanced Nursing,* **71**(2), 255-270.

Meyer, A., Rose, D. & Gordon, D. (2014) *Universal Design for Learning:Theory and Practice.*, CAST Professional Publishing, Wakefield, MA.

Meyer, K. (2014) Student engagement in Online Learning: What Works and Why. Wiley Online Library.

Prithishkumar, I.J. & Michael, S.A. (2014) Understanding your student: Using the VARK model...visual, aural, read/write, and kinesthetic. *Journal of Postgraduate Medicine,* **60**(2), 183-186.

Ramsden, P. (2003) *Learning to Teach in Higher Education,* Routledge/Falmer, London.

Seymour, E., Wiese, D., Hunter, A. & Daffinrud, S. (2000) Creating a better mousetrap: on-line student assessment of their learning gains. In *National Meetings of the American Chemical Society Symposium: "Using real-world questions to promote active learning"*.San Francisco, Ca.

Stanford, J., Rocheleau, S., Smith, K. & Mohan, J. (2017) Early undergraduate research ecperiences lead to similar leanging gains for STEM and NON-STEM undergraduates. *Studies in Higher Education*, 42:1, 115-129.

Traynor, M., Gallagher, A., Martin, L. & Smyth, S. (2010) From novice to expert: using simulators to enhance practical skill. *British Journal of Nursing*, **19**(22), 1422-1426.

Uttl, B., White, C. & Gonzalez, D. (2017) Meta-analysis of faculty's teaching effectiveness: Student evaluation of teaching ratings and student learning are not related. *Studies in Educational Evaluation,* 54, 22-42.

Figure 1. Mean SALG score for each subsection of the SALG questionnaire (n = 206). Score 0 = help/gain; 1 = a little help/gain; 2 = satisfactory help/gain; 3 = very good help/gain and 4 = excellent help/gain.

Table 1. Subscales and response alternatives used to assess student perceptions.

Subsection	No help	A little help	Satisfactory help	Very good help	Excellent help
Semester 1 overall	0	1	2	3	4
Assessments overall	0	1	2	3	4
General information received	0	1	2	3	4
Support for you as an individual learner	0	1	2	3	4
Subsection	**No gain**	**A little gain**	**Satisfactory gain**	**Very good gain**	**Excellent gain**
Increases in your skills	0	1	2	3	4
Your understanding of semester content	0	1	2	3	4
Semester impact on your attitudes	0	1	2	3	4
Integration of your learning	0	1	2	3	4

Table 2

	No help	A little help	Satisfactory help	Very good help	Excellent help
Impact of Semester 1 Overall					
Attending lectures	1.0%	7.1%	28.6%	34.8%	28.6%
Participating in clinical skills labs	0.5%	1.0%	3.8%	24.9%	69.9%
Online learning materials	1.4%	5.3%	21.1%	40.7%	31.6%
The teaching approaches taken in lectures	0.5%	6.2%	28.6%	42.9%	21.9%
The teaching approaches taken in clinical skills labs	0.5%	1.9%	5.7%	33.8%	58.1%
How the module topics, activities, reading and assignments fit together to facilitate learning	1.4%	3.3%	26.8%	45.9%	22.5%
The pace of the modules	1.9%	12.1%	35.7%	31.9%	18.4%
Impact of Semester 1 Assessments					
Graded assessments overall	1.0%	1.0%	23.9%	48.8%	25.4%
Writing assignments overall	2.9%	10.1%	31.3%	40.4%	15.4%
Multiple Choice Questions (MCQ)	1.0%	0.5%	10.6%	36.5%	51.4%
The number of assessments	1.4%	2.9%	28.1%	45.2%	22.4%
The spacing of assessments	1.9%	5.7%	32.9%	36.7%	22.9%
The link between module content and assessment	1.0%	1.0%	27.3%	44.0%	26.8%
The mental challenge required for assessments	1.4%	5.3%	29.3%	43.3%	20.7%
The UCD grade descriptors	3.4%	10.1%	31.9%	36.7%	17.9%
The feedback after assessments	3.4%	12.1%	24.6%	36.2%	23.7%
Impact of General Information given in Semester 1					
Explanation of how all activities, reading and assessments relate to each other	2.4%	8.1%	30.0%	44.3%	15.2%
Explanation given by lecturers of how to learn or study the materials	1.4%	11.9%	27.1%	39.5%	20.0%
Explanation of why Semester 1 modules focused on the topics presented	1.9%	10.7%	26.7%	43.2%	17.5%
Impact of Support Given in Semester 1					
Interaction with lecturers during modules	4.3%	12.	30.0%	34.	18.6%

		4%		8%	
Interaction with lecturers outside of class hours	14.4 %	24. 9%	23.4%	24. 4%	12.9%
Working with staff in the clinical skills labs	0.5%	1.4 %	9.1%	29. 3%	59.6%
Working with peers/student teams	7.3%	9.3 %	14.6%	38. 0%	30.7%
Impact of Semester 1 on your Skills development					
Finding articles relevant to a particular problem in professional journals or elsewhere	1.9%	13. 8%	28.6%	33. 3%	22.4%
Critically reading articles about issues raised in modules	1.4%	15. 9%	25.5%	38. 5%	18.8%
Recognising a sound argument and appropriate use of evidence	1.4%	12. 9%	32.9%	33. 3%	19.5%
Developing a logical argument	1.0%	16. 2%	28.6%	37. 1%	17.1%
Writing assignments in an academic appropriate style and format	2.4%	15. 7%	27.6%	39. 0%	15.2%
Working effectively with others	1.4%	17. 6%	31.0%	31. 0%	19.0%
Impact of Semester 1 on developing your Understanding					
Critical thinking	2.9%	13. 8%	30.0%	34. 8%	18.6%
Problem solving	2.4%	7.7 %	29.7%	38. 3%	22.0%
Writing skills	1.0%	12. 9%	33.8%	31. 4%	21.0%
Teamwork	1.4%	8.1 %	11.9%	36. 7%	41.9%
Communication skills	1.5%	1.5 %	8.7%	35. 9%	52.4%
Impact of Semester 1 on your Attitudes					
Enthusiasm for your discipline (Nursing/Midwifery)	1.9%	3.4 %	15.5%	35. 7%	43.5%
Interest in discussing the subject area with friends or family	1.9%	5.7 %	14.8%	38. 1%	39.5%
Confidence that you understand the material	3.3%	2.9 %	14.3%	37. 1%	42.4%
Confidence that you can do this subject area	2.4%	4.4 %	13.6%	30. 6%	49.0%
Your comfort level with working with complex ideas	1.4%	3.3 %	15.3%	37. 8%	42.1%
Willingness to seek help from others (lecturers, peers, facilitators, IT, library) when working on academic problems	1.4%	5.3 %	16.7%	35. 4%	41.1%
Impact of Semester 1 on Integration of your Learning					
Connecting key module ideas with other knowledge	0.0%	3.9 %	21.6%	36. 8%	37.7%
Applying what I learned in class to clinical skills lab	0.0%	2.4 %	22.7%	42. 5%	32.4%
Using systematic reasoning in my approach to problems	1.0%	3.4 %	21.0%	41. 0%	33.7%

Practising evidence-based nursing/midwifery in the clinical skills lab	1.5%	4.4 %	22.3%	39. 3%	32.5%

Table 3 Percentage of scores in each of the 5 response categories (0, no help/gain; 1, a little help/gain; 2, satisfactory help/gain; 3 very good help/gain; 4, excellent help/gain) for each of the SALG subscales.

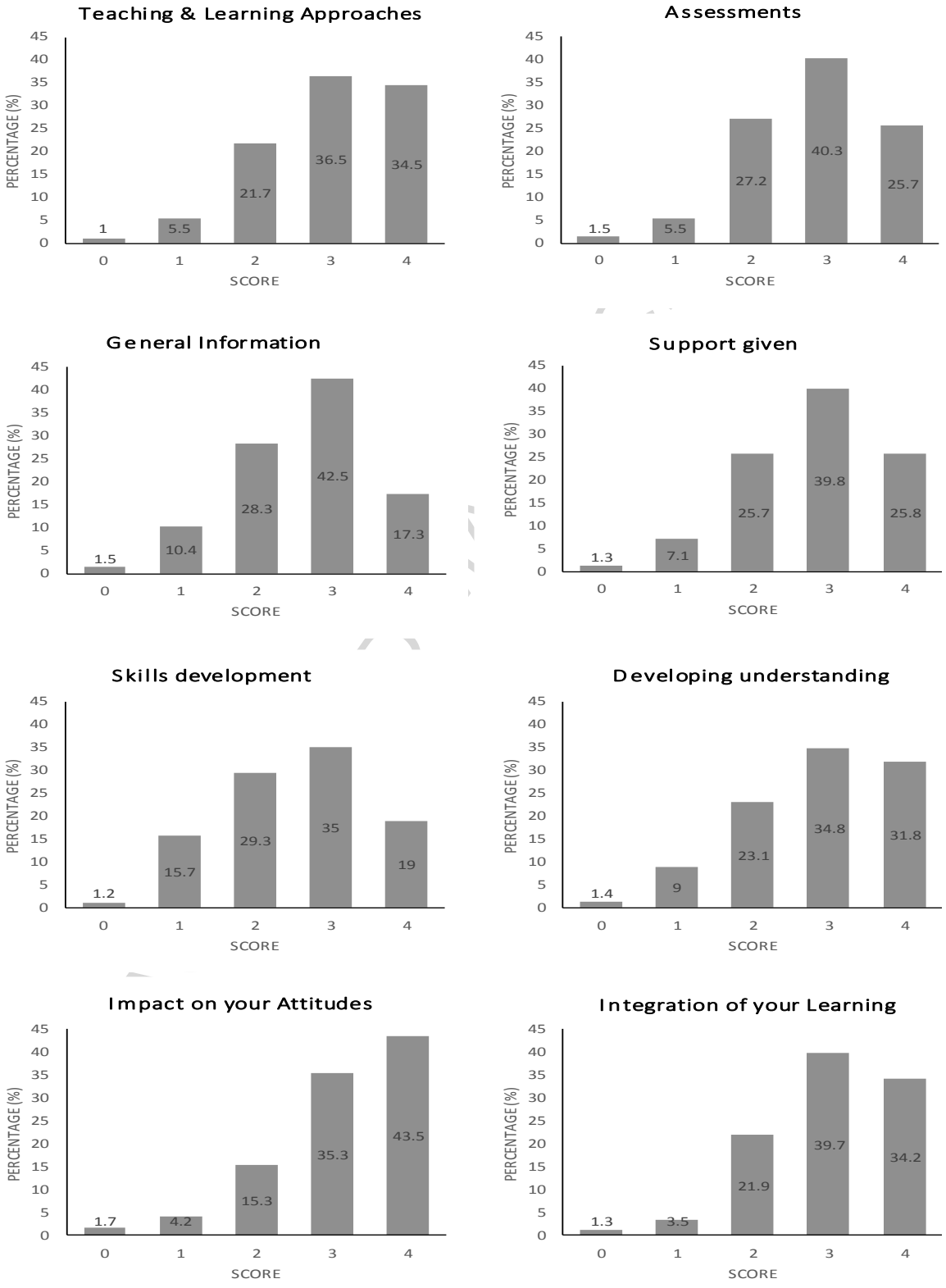

Table 4 Percentage of scores in each of the 5 response categories (no help/gain to excellent help/gain) for all items (44 items) grouped under their respective subsections (8 subsections) of the SALG questionnaire by all participants (n = 206). Final column 'Rating Average' contains the mean SALG rating for each item.

		No help	A little help	Satisfactory help	Very good help	Excellent help	Rating Average
	Teaching & Learning Approaches	*n (%)*	*n (%)*	*n (%)*	*n (%)*	*n (%)*	
1	Attending lectures	1 (.5)	15 (7.3)	59 (28.6)	73 (35.4)	58 (28.2)	2.83
2	Participating in clinical skills labs		2 (1)	8 (3.9)	52 (25.4)	143 (69.8)	3.64
3	Online learning materials	2 (1)	11 (6.3)	44 (21.5)	85 (41.5)	63 (30.7)	2.96
4	The teaching approaches taken in lectures		13 (6.3)	58 (28.6)	90 (42.9)	45 (21.9)	2.81
5	The teaching approaches taken in clinical skill labs		4 (1.9)	12 (5.8)	70 (34)	120 (58.3)	3.49
6	How the module topics, activities, reading and assignments fit together	2 (1)	7 (3.4)	56 (27.3)	93 (45.4)	47 (22.9)	2.86
7	The pace of the modules	3 (15)	25 (12.3)	74 (36.5)	63 (31)	38 (18.7)	2.53
	Semester Assessments						
8	Graded assessments overall	1 (.5)	2 (1)	50 (24.4)	99 (48.3)	53 (25.9)	2.97
9	Writing assignments overall	5 (2.5)	21 (10.3)	65 (31.9)	81 (39.7)	32 (15.7)	2.55
10	Multiple Choice Questions (MCQ)	1 (.5)	1 (.5)	22 (10.8)	73 (35.8)	107 (52.5)	3.37
11	The number of assessments	2 (1)	6 (2.9)	59 (28.6)	92 (44.7)	47 (22.8)	2.84
12	The spacing of assessments	3 (1.5)	12 (5.8)	69 (33.5)	74 (35.9)	48 (23.3)	2.73
13	The link between module content and assessment	1 (.5)	2 (1)	57 (27.8)	89 (43.4)	56 (27.3)	2.95
14	The mental challenge required for assessments	2 (1)	11 (5.4)	61 (29.9)	87 (42.6)	43 (21.1)	2.76
15	The UCD grade descriptors	6 (3)	21 (10.3)	66 (32.5)	73 (36)	37 (18.2)	2.56
16	The feedback after assessments	6 (3)	25 (12.3)	49 (24.1)	74 (36.5)	49 (24.1)	2.65
	General Information given						
17	Explanation of how all activities, reading and assessments relate	4 (1.9)	17 (8.3)	63 (30.6)	92 (44.7)	30 (14.6)	2.62
1	Explanation given by lecturers of how to learn	2 (1)	25	57	81	41	2.65

8	or study the materials		(12.1)	(27.7)	(39.3)	(19.9)	
19	Explanation of why Semester modules focused on the topics presented	3 (1.5)	22 (10.9)	54 (26.7)	88 (43.6)	35 (17.3)	2.64
	Support Given						
20	Interaction with lecturers during modules	8 (3.9)	26 (12.6)	63 (30.6)	70 (34)	39 (18.9)	2.51
21	Interaction with lecturers outside of class hours	29 (14.1)	51 (24.9)	49 (23.9)	49 (23.9)	27 (13.2)	1.97
22	Working with staff in the clinical skills labs		3 (1.5)	19 (9.3)	60 (29.4)	122 (59.8)	3.46
23	Working with peers/student teams	14 (7)	19 (9.5)	30 (14.9)	77 (38.3)	61 (30.3)	2.76
	Skills development						
24	Finding articles relevant to a particular problem	3 (1.5)	29 (14.1)	59 (28.6)	68 (33)	47 (22.8)	2.6
25	Critically reading articles about issues raised in modules	2 (1)	33 (16.2)	52 (25.5)	78 (38.2)	39 (19.1)	2.57
26	Recognising a sound argument and appropriate use of evidence	2 (1)	27 (13.1)	67 (32.5)	69 (33.5)	41 (19.9)	2.57
27	Developing a logical argument	1 (.5)	34 (16.5)	60 (29.1)	75 (36.4)	36 (17.5)	2.53
28	Writing assignments in an academic appropriate style and format	4 (1.9)	33 (16)	58 (28.2)	79 (38.3)	32 (15.5)	2.49
29	Working effectively with others	2 (1)	37 (18)	65 (31.6)	63 (30.6)	39 (18.9)	2.49
	Developing your Understanding						
30	Critical thinking	5 (2.4)	29 (14.1)	63 (30.6)	70 (34)	39 (18.9)	2.52
31	Problem solving	4 (2)	16 (7.8)	61 (29.8)	78 (38)	46 (22.4)	2.7
32	Writing skills	1 (.5)	27 (13.1)	70 (34)	64 (31.1)	44 (21.4)	2.59
33	Teamwork	2 (1)	17 (8.3)	25 (12.1)	74 (35.9)	88 (42.7)	3.1
34	Communication skills	2 (1)	3 (1.5)	18 (8.9)	71 (35.1)	108 (53.5)	3.36
	Impact of Semester on your Attitudes						
35	Enthusiasm for your discipline (Nursing/Midwifery)	3 (1.5)	7 (3.4)	32 (15.8)	72 (35.5)	89 (43.8)	3.15
36	Interest in discussing the subject area with friends or family	3 (1.5)	12 (5.8)	31 (15)	79 (38.3)	81 (39.3)	3.08
37	Confidence that you understand the material	6 (2.9)	6 (2.9)	30 (14.6)	75 (36.4)	89 (43.2)	3.12
38	Confidence that you can do this subject area	4 (2)	9 (4.5)	28 (13.9)	60 (29.7)	101 (50)	3.19
3	Your comfort level with working with complex	2 (1)	7	32	76	88	3.16

9	ideas		(3.4)	(15.6)	(37.1)	(42.9)	
4	Willingness to seek help from others		11	35	71	66	
0	(lecturers, peers, facilitators, IT, library).	2 (1)	(5.4)	(17.1)	(34.6)	(42)	3.1
	Impact of Semester on Integration of your Learning						
4	Connecting key module ideas with other		8	44	74	77	
1	knowledge		(3.9)	(21.7)	(36.5)	(37.9)	3.08
4	Applying what I learned in class to clinical skills		5	47	87	67	
2	lab		(2.4)	(22.8)	(42.2)	(32.5)	3.05
4	Using systematic reasoning in my approach to		7	43	83	69	
3	problems	2 (1)	(3.4)	(21.1)	(40.7)	(33.8)	3.03
4	Practising evidence-based nursing/midwifery	3	9		81	67	
4	in the clinical skills lab	(1.5)	(4.4)	45 (22)	(39.5)	(32.7)	2.97

Highlights

- Using the SALG tool, students can assess the learning quality of their programmes.
- The greatest perceived enablers of learning were: clinical skills laboratory participation, peer support and formative multiple choice questions.
- Students rated greatest learning gains in communication and team work skills and confidence.

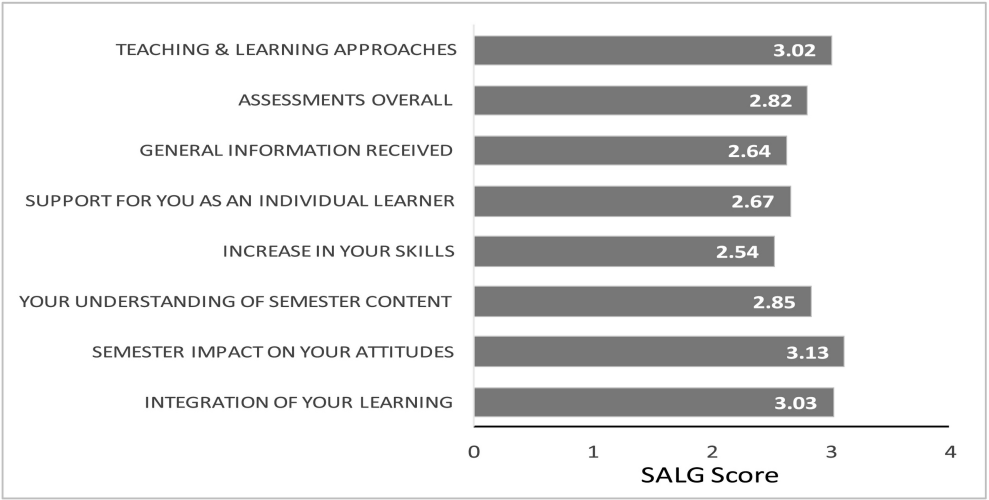
TEACHING & LEARNING APPROACHES
3.02
ASSESSMENTS OVERALL
2.82
GENERAL INFORMATION RECEIVED
2.64
SUPPORT FOR YOU AS AN INDIVIDUAL LEARNER
2.67
INCREASE IN YOUR SKILLS
2.54
YOUR UNDERSTANDING OF SEMESTER CONTENT
2.85
SEMESTER IMPACT ON YOUR ATTITUDES
3.13
INTEGRATION OF YOUR LEARNING
3.03
0
1
2
3
4
SALG Score

Figure 1