

Submissions Abstract Book - All Papers (All Submissions)

0078

K6 | Denbigh 1

Chaired by Yasmin Khodary

Thu 12 Dec 2019

11:30 - 12:00

Fostering Professional Thinking In Early Learning Dietetics Lectures Through Flipped Learning

Joyce HL. Koh¹, Nikki Scott¹, Angela Lucas¹, Minako Kataoka¹, Sue MacDonell¹

¹University of Otago, Dunedin, New Zealand

Research Domain: Learning, teaching and assessment (LTA)

Abstract: Flipped learning changes the lecture experience because students do self-directed learning before class and class-time is used for active learning (Bergmann, 2012). Flipped learning increases opportunities for interaction and critical thinking (O'Flaherty & Phillips, 2015). Professional thinking captures how professionals solve problems within their contexts of practice. This study illustrates how flipped learning can support professional thinking during lectures for Dietetics students when anchored upon clinical events and learning activities that support clinical reasoning, evidence-based practice, professional dialogue, and reflective practice. This will be exemplified through four flipped learning lessons.

References

Bergmann, J. (2012). *Flip your classroom : reach every student in every class every day* (1st ed. ed.). Eugene, Or. : Alexandria, Va.: International Society for Technology in Education, ASCD.

O'Flaherty, J., & Phillips, C. (2015). The use of flipped classrooms in higher education: A scoping review. *The internet and higher education*, 25, 85-95.
doi:<https://doi.org/10.1016/j.iheduc.2015.02.002>

Paper: Introduction

Flipped learning transforms the traditional lecture experience because students engage in self-directed study of lecture materials before class and class time is used for active learning (Bergmann, 2012). Even though flipped learning has been widely used in professional programmes, how it can be used to foster professional thinking has not been clearly articulated (Karabulut-Ilgu, Jaramillo Cherez, & Jahren, 2018). Professional thinking captures how professionals solve problems within their contexts of practice (Schön, 1992). While this is typically developed during work-based practicums in

professional programmes (Roberts, 2009), this study illustrates how flipped learning can support professional thinking during lectures for Dietetics students in the early learning stages of their two-year certification programme.

Flipped learning for professional thinking

Flipped learning involves learning activities that integrate pre-class preparation with in-class experiences (O'Flaherty & Phillips, 2015). Professional thinking can be supported during flipped learning through student engagement in practice to foster their professional competence (Dall'Alba & Sandberg, 1996). The following aspects of professional thinking are critical when designing flipped learning for healthcare students:

1. Clinical contexts – Students may encounter a limited variety of patients during clinical practice (Schmidt & Mamede, 2015). Flipped lessons anchored upon critical events (Bannigan & Moores, 2009) from clinical practice can be used to fill this gap.
2. Clinical reasoning with evidence-based practice – Personal tacit knowledge guiding clinical reasoning needs to be synthesised with evidence-based practice (Bannigan & Moores, 2009). Through flipped learning, students learn evidence-based practices before class and engage in clinical reasoning through active problem-solving during class.
3. Professional dialogue and reflection – Dialogue and reflection with one's professional community of clinical supervisors and peers are critical aspects of decision-making in healthcare contexts (Bannigan & Moores, 2009). Flipped learning supports interaction among lecturers and students (O'Flaherty & Phillips, 2015) and this can be directed towards professional dialogue and reflection.

Flipped learning examples

The following examples illustrate how these aspects of professional thinking are implemented in four flipped learning lessons for 31 first-year students of a Masters of Dietetics programme.

Example 1 – Subjective Global Assessment

Early learning students tend to lack confidence when conducting physical examinations for nutrition assessment. Through flipped learning, students studied the physical examination processes with notes and quizzes before class. Lecture sessions were redesigned for students to develop confidence by conducting physical examinations on four tutors who acted as mock patients. Students were challenged to develop personal understanding by applying content knowledge and clinical reasoning towards the physical differences among their mock patients. Professional dialogue and reflection were facilitated through class discussions about clinical realities such as frail older patients and patients with broken bones. These dialogues and reflections were further developed when students practiced the procedures independently in pairs after class and provided each other with peer feedback.

Example 2 – Ethical decision making

To develop ethical understanding, students studied the New Zealand Dietitians' Code of Ethics and

Conduct before class and applied these to simple cases through class discussions. Further engagement with clinical contexts was engendered with students solving an open-ended patient case set in a Residential Aged-care Facility. Students were assigned roles of dietitian, patient, patient's family members, or facility administrators and had to reach a decision for the patient's care by role-playing a family conference meeting attended by these different parties. This experience allowed students to confront clinical reasoning amidst ethical dilemmas that emerged through the realistic context of a family conference. The collaborative nature of the activity allowed students to examine their decisions through professional dialogue and reflection with peers and debrief with the lecturer.

Example 3 – Cultural Patterns

To develop awareness about dietetic practice in multi-cultural contexts, students worked in groups to conduct pre-class research about the food and meal patterns; and the cultural and religious beliefs that dietitians need to be aware of with respect to the major ethnic groups of New Zealand. Students then interviewed three mock patients of different ethnicity. Working in pairs, students used the resources they prepared before the class to draft questions for understanding the patients' dietary habits. Each pair had to interview three patients and were given time for reflection and revision of their questions after each interview. These experiences supported students to develop clinical skills for patient communication by dialoguing and reflecting with a professional peer.

Example 4 – Small bowel disease

In this topic, student groups worked with the lecturer to prepare online study guides for different small bowel diseases before class. During class, students used these resources to develop an intervention plan for a patient. This was conducted as a matheletic session based on a past exam question based on a case. Students had to answer a series of questions related to the case progressively. They presented their intervention plan to the lecturer who then assessed the answer and either allowed them to progress through the next question of the case study or asked more probing questions to help students consider alternative solutions or possible gaps in their plan.

Discussion and future work

The four examples show that clinical contexts can be embedded within curriculum time allocated to lectures even though clinical practice remains the key conduit for structured clinical skills training. There is a misnomer of lectures as mere avenues of content transmission whereas well-designed lectures stimulate critical thinking through interaction (French & Kennedy, 2017). Flipped learning can transform traditional lectures by increasing opportunities for interaction and critical thinking (Karabulut-Ilgü et al., 2018). As illustrated by the examples, flipped learning can support professional thinking in healthcare programmes when anchored upon clinical events and learning activities focused on clinical reasoning, evidence-based practice, professional dialogue, and reflective practice. Anecdotal evidence from students indicate that the flipped learning lessons made them think on their feet and articulate their thoughts as they would have to in real-life Dietetics practice. Student reflections, transcripts of class discussions, as well as quiz and test results will be further analysed to understand the kinds of professional thinking students developed and the processes that best develop them.

References

Bannigan, K., & Moores, A. (2009). A model of professional thinking: Integrating reflective practice and evidence based practice. *Canadian Journal of Occupational Therapy*, 76(5), 342-350. doi:10.1177/000841740907600505

Bergmann, J. (2012). *Flip your classroom : reach every student in every class every day* (1st ed. ed.). Eugene, Or. : Alexandria, Va.: International Society for Technology in Education, ASCD.

Dall'Alba, G., & Sandberg, J. (1996). Educating for competence in professional practice. *Instructional Science*, 24(6), 411-437. doi:10.1007/bf00125578

French, S., & Kennedy, G. (2017). Reassessing the value of university lectures. *Teaching in Higher Education*, 22(6), 639-654. doi:10.1080/13562517.2016.1273213

Karabulut-Ilgü, A., Jaramillo Chérrez, N., & Jähren, C. T. (2018). A systematic review of research on the flipped learning method in engineering education. *British Journal of Educational Technology*, 49(3), 398-411. doi:<https://doi.org/10.1111/bjet.12548>

O'Flaherty, J., & Phillips, C. (2015). The use of flipped classrooms in higher education: A scoping review. *The internet and higher education*, 25, 85-95. doi:<https://doi.org/10.1016/j.iheduc.2015.02.002>