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Now it's over to you: a workbook approach

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Description

During the oncology topic within the third year 'Clinical Pharmacology and Therapeutics 2' module – (CPT2) of the MPharm at Robert Gordon University (RGU) – it quickly became apparent that students had difficulty in placing complex concepts into context.

As a response to these identified learning difficulties, a just-in-time, step-by-step guided workbook approach was developed using common e-learning software. The outcome was a person-centred case study, signposting the students to information they already have and aiding them to put it into context. The intention was to enable students to critically appraise the information provided, and subsequently drive their own learning, rather than simply provide them with the solutions.

Students should perceive their lecturers not as a transmitter of knowledge but more as a facilitator, guiding their learning. In constructivist learning theory, students should draw on existing knowledge, beliefs, and skills and build on these, allowing them to synthesize new understanding from prior learning and new information. The opportunity is then open for the students to create their own case studies and workbook around the solid tumours and haematological malignancies covered within the course.

The basic cognitive competences that the students (future pharmacists) should successfully demonstrate were described in Bloom's (1956) taxonomy – namely knowledge, comprehension, application, analysis, synthesis, and evaluation. In tandem with these cognitive skills, students should be able to reflect on their own learning experience. Pharmacists' mandatory continuous professional development (CPD) is based on Kolb (1984) and Gibbs (1988) theories on reflection, and both these cycles were used to develop this software. These learning cycles propose that theory and practice enrich each other in a never-ending circle. In this model, students' learn more effectively if they are actively involved in the learning process than if they are passive receivers. By providing the conditions for students to learn, their learning is deep rather than mere regurgitation.

Effectiveness

It is important for students, particularly student healthcare professionals such as pharmacists, to develop ownership of their learning, as this is a life-long process. By learning through a process of repetition and trial and error the student quickly appreciates their strengths and weaknesses. In addition, rapid feedback from the academic, combined with the stepwise approach advocated in the workbook, allows students to formulate learning strategies and to make sense of what they learn. Formative assessment will deepen this process further. Race's (2010) 'Ripples on a pond' model provides a framework through which this can be achieved. Although, Race's (2010) premise is that the most effective form of learning is experiential learning, his philosophical approach to learning departs from Kolb where he identifies a new element, namely a want or a need to learn (in this case understanding the complex concepts of oncology).

Once the student has had that 'eureka' moment and understands the concept the academic was trying to impart (problem-based learning (PBL)), they deepen their own learning through communicating and explaining to other students.

However, it is only when the student's reflection on the modules is delivered that the student's grasp of the nature of the academic teaching is elucidated. Student feedback on a module is often provided

through end-of-year modular reports, and is anonymous. This provides the opportunity to speak without bias, knowing that the lecturer whose material has been commented upon will have no idea which student it is. However, when a student actually contacts a lecturer and asks for more examples of the particular independent learning approach taken, this positive feedback reinforces the validity of the approach.

Student one:

Dear Dr McFadyen,

I was just wondering if you were planning on putting a revision workbook on Moodle for the immune system in CPT2, as I have found the one for oncology very useful??

Many thanks

It is clear that if you engage students in their own learning process then their dedication and keenness to acquire the requisite science and practice-based skills to adequately fulfil the learning outcomes and objectives of the course becomes exemplary.

Anecdotal feedback from students and staff has been positive, and following discussions with dietetic colleagues, this workbook will be developed to provide an inter-professional educational tool on colorectal cancer for dietetic and third year MPharm students. The student's comment above has also been actioned with the development of a novel inter-professional immunology tool.

Promotion

As admission officer for the MPharm and internal Biomedical Sciences validator for the International College at RGU it is important to illustrate the University's student-centred independent-learning approach to teachers, parents and potential applicants. Demonstrating novel independent-learning approaches often helps to abate concerns from students from different educational backgrounds and cultures. In addition, ensuring support (specialised software, etc.) is available to those students who may have additional learning requirements such as impaired vision, and this helps them to appreciate the University's inclusivity and the educational opportunities available to them.

It is important to signpost information to students to facilitate their knowledge and learning. A virtual teaching environment (Moodle) provides a medium through which students are alerted to all teaching material from basic lecture material to novel learning strategies. This knowledge is also communicated through a combination of email, discussion forums and during face-to-face teaching.

The Oncology workbook was recently presented to the Faculty of Health and Social Care e-learning committee as an example of best practice. It was also disseminated to the wider university and education community at the inaugural Conference on Teaching and Learning – 'Innovate to Stimulate' – at RGU on the 9 May 2014. Conference themes included online learning, innovative teaching and assessment methods, and internationalisation.

Response to the just-in-time stepwise approach has been overwhelmingly positive and is now embedded in the module.

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