Introduction

Teaching research is one of the most challenging subjects for educators in various disciplines due to the complexity of theoretical concepts. Additionally, negative attitudes are held by students who find research complex and boring [1]. Yet, evidence based practice is fundamental in the higher education curriculum for students nurses. A growing body of evidence suggests that graduates in nursing lack the confidence and ability to utilize research in their clinical areas [2]. There is some debate as to whether this may be due to how research is taught by faculty and consequently this has led to the emergence of innovative teaching and learning strategies, to break barriers and equip students with the knowledge, skills and confidence to become research literate.

Literature review

Research content is often described as academically abstract and challenging to teach [3]. The manner in which it is taught has implications for students. Moreover, student perceptions of research are that it is ‘boring, complex and difficult to understand’[4]. As a result students fail to recognize the correlation between research and practice [5]. Such beliefs need to be challenged and a positive attitude needs to be cultivated through engaging and meaningful teaching and learning. This is essential if students are to become research literate and equipped with research skills to support their practice [6]. Student characteristics should be carefully considered when planning learning strategies so that activities can be tailored to their needs which consequently may yield better results [7]. It is predicted that by 2025 millennials will make up 75% of the global workforce [8]. Millennials are described as the ‘first generation to have grown up with computers’ and are therefore ‘technologically advanced’. Millennials have a strong sense of self, are group focused and good at multitasking. They prefer ‘doing’ rather than ‘knowing’[9]. Therefore the conventional pedagogy methods employed in higher education for example reading, lectures, and critiquing journal articles represent challenges to millennials and have little impact. Millennials prefer technology, collaboration, clarity, fun, excitement and experiential activities [7].

Student focused teaching strategies

A number of engaging learning activities were created to meet the challenges of teaching research to millennials. The first example which was implemented was a flipped classroom technique. In this strategy, the classroom is ‘reversed’; the teacher delivers the material before the class and class time is spent engaging students in active learning activities that include collaboration and interaction [10]. The students were provided material and questions on Randomised Control Trials (RCT) before the session. This allowed students to read the research method independently and digest a seemingly complex content. Class time was utilised to discuss RCT via socratic questioning and feedback was expressed via Padlet, an online collaborative tool that allows students to type their ideas/feedback using their mobile phones. Other examples of student centred activities are word games and quizzes to check previous learning. Games are reported to be more ‘fun’ than a lecture [11].
and can be used to reinforce research terminology [12]. An adapted form of charades was utilize to reinforce research terminology. This was achieved by dividing the class into two groups, whereby one member of each group sits on the hot seat facing their team; the lecturer writes a research terminology on the board behind the student and the rest of the team members provide verbal clues. This game instills a competitive edge, entertains and encourages teamwork as well as checking their understanding of the subject areas which may need a revisit. A class quiz was used to check learning using the Blockbuster template which can be found online. The students are divided into groups depending on size either two or more. The aim of the game is for one team to win by answering questions completing a path of hexagon tiles either vertically, horizontally and diagonally. A prize can be offered to the winning team. Classroom experiments also make the subject more stimulating for the students. The RCT lesson earlier also embedded an experiment to test the method. The class was randomly divided into control and treatment groups by students picking out a bag of two coloured sweets. The treatment group was provided with a wordlist of common language (Turkish or any other language which is not known to students) words and phrases to memorise for five minutes, whereas the control group was given nothing. At the end of five minutes, the wordlist was collected from the treatment group and a quiz was distributed to both groups. Another five minutes were provided for the class to complete the quiz based on Turkish words and phrases. The answers were read out and students marked each other’s work and added their scores, one point for each correct answer. The data was collected and a graph was created by students using Microsoft excel to display the results and a discussion followed. The students found it a fun and enjoyable experience to not only learn an unfamiliar language but to understand the process of RCT. This also enhances a deeper approach to learning rather than a surface approach to their understanding of the research method [13]. Experiments have been used as an innovative learning strategy that engage students and make a complex and boring subject more coherent and engaging for the students. Experiments have been reported in nurse education literature with examples of the infamous cookie experiment by Thiel in 1987 and more recently amended to learn evidence based practice through self-directed learning workshop strategies during clinical practicum. Nurse Education today, 2011; 32: 570-575.

Conclusion

Active learning can positively impact learning and empowers students. The discourse on teaching research focused on the need for new and innovative methods that are effective and help students develop an appreciation for research and equip them with skills and knowledge to foster research literacy. The flipped classroom approach appeared to be an effective and tested method that helped students takes ownership for their learning. The word game, quiz, experiment and polling app not only created ‘fun and excitement’ but also checked student understanding of research knowledge in a dynamic and experiential manner. It is important to consider the students’ characteristics, learning styles and past experiences when designing activities.

References