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Experiences in Teaching and Learning

## Perceived benefit of a student-led journal club presentation in a pharmacotherapy module

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## ABSTRACT

**Background and purpose:** The primary purpose of this study was to evaluate student's perceptions of a student led journal club.

**Educational activity and setting:** There were four, paired student led journal club sessions throughout the five week Women's and Men's Health Pharmacotherapy course. Journal club topics expanded upon didactic lecture material. A voluntary end-of-course survey was administered. Survey questions pertained to student's perception of the activity. Course and journal club grades were collected to identify correlations between demographics and performance.

**Findings:** All 91 students were given the survey (92.3% completion rate). Most students had not completed the journal club elective course or a journal club presentation previously (84.5% and 70.2%, respectively). Post-intervention prior to the course, most students did not feel confident in evaluating primary literature or presenting a journal club (61.9% and 59.5%, respectively). By the end of the course, most students felt an improvement in confidence in evaluating primary literature and presenting a journal club (88.1% and 89.3%, respectively). Most students agreed the journal club activities adequately complemented course material and was a beneficial course component (84.5% and 85.7%, respectively). Students felt better prepared for their Doctoral Candidate Seminar and pharmacy year four experiential rotations (76.1% and 86.9% respectively). Overall students reported that the journal club activity should be included in future courses (79.7%). The only parameter that predicted student confidence to present the journal club was completion of a journal club prior to the course. ( $p = 0.013$ )

**Summary:** Students perceived the journal club presentation in a pharmacotherapy module to be beneficial and agreed it should be included in future courses.

### Background and purpose

Critical evaluation of the medical literature is essential to guiding treatment recommendations and providing quality patient care. The 2016 Accreditation Council for Pharmacy Education (ACPE)<sup>1</sup> and 2013 American Association of Colleges of Pharmacy (AACP) Center for the Advancement of Pharmacy Education (CAPE) Guidelines<sup>2</sup> require that student pharmacists become proficient in analyzing primary literature and making evidence-based recommendations. Since the first organized journal club in the late 19th century at McGill University, these sessions have been modified to accommodate a variety of settings and the needs of student learners.<sup>3</sup> Although these sessions have undergone transformation, the goals have remained the same: stay up to date with current medical literature, discuss the potential clinical impact of the results, and review essential skills needed for literature evaluation.

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In 2014, O'Sullivan and colleagues<sup>4</sup> developed a web-based survey to determine how medical literature evaluation (MLE) was being taught in U.S. schools of pharmacy and to identify the methods being utilized for teaching and assessing these skills. Ninety of 127 schools completed the survey (71% response rate). The survey identified the most common model for MLE as a stand-alone course (49%) taught in the second professional year (43%). Although 15% of survey respondents identified integrating MLE exercises into modules within therapeutics courses, little has been published about the benefit of such exercises. In our project, a journal club activity was implemented into a pharmacotherapy lecture-based course.

The goal of the journal club activity that was added to the preexisting pharmacotherapy module was to provide students an additional opportunity to increase abilities and comfort level evaluating and presenting on medical literature while enhancing course content. Additionally, implementation of this activity was done in hopes of improving student performance on their Doctoral Candidate Seminar and future journal club presentations in Advanced Pharmacy Practice Experiences (APPE) rotations.

### Educational activity and setting

Women's and Men's Health is a pharmacotherapy module taught in the spring semester of the third year at Wingate University School of Pharmacy. The two credit hour 5-week course is taught by three faculty members to two campuses, one live and one via video teleconference (VTC) technology, to approximately 90–100 total students four days a week with each lecture period lasting 75 min. In previous offerings, a journal club activity was assigned to a group of six to seven students with each group providing a PowerPoint journal club presentation to both campuses. While this did address the need for more journal clubs in the didactic curriculum, it was not seen as a valuable experience by students or faculty based on anecdotal comments and those noted on course evaluations. First, having several students in each group allowed a portion of students to not fully engage in the journal article discussion. Second, presentation via PowerPoint is not consistent with journal clubs during APPE rotations or clinical practice as they are generally discussed over a handout. Finally, having the presenters at the podium and a large audience, live and VTC connected, did not allow for dialogue between students and faculty.

Students at Wingate University School of Pharmacy complete a one credit hour literature evaluation course in the spring semester of the second year but journal club presentations are not a required graded activity in these courses, nor is an example of a journal club presentation provided by a faculty member. An offering of a journal club elective is available to third year students in the fall semester, but enrollment is capped at 14 students annually.

In Spring 2016, the course instructors of the Women's and Men's Health Pharmacotherapy course opted to keep the journal club presentation with a new configuration in hopes to make the activity more meaningful. These modifications were based on previous student critiques from course evaluations. Enrolled students were assigned a partner on their campus and tasked with preparation of a journal club presentation based on an assigned primary literature article. Four journal articles were selected by course faculty and included relevant topics not covered in-depth in a course lecture. Students were assigned a group that consisted of six to eight students and a faculty member. Given the class size, 13 additional faculty members at the school of pharmacy were recruited to assist with facilitation of the journal club activity. Recruitment of faculty was initiated several weeks prior to the start of the course and instructions related to the activity were provided in detail ([Appendix A](#)). For weeks two through five in the course, one 75 min lecture period weekly was reserved for journal club presentations. Presentations were conducted in a round table format to facilitate journal club-related discussion. No VTC technology was utilized as sessions were conducted locally and not broadcast between campuses. The two students presenting were required to provide a handout and five related quiz questions 48 hours prior to their journal club presentation. Other students in the group were advised to read the journal club article prior to the discussion in class.

On the day of the presentation, the student pair was assigned to provide at least a 40 min discussion of their assigned article. The presentation was followed by a quiz for the non-presenting students and consisted of five primarily recall questions pertaining to the article that were written by the presenters. The faculty member completed a rubric ([Appendix B](#)) for the presentation and facilitated group discussion to ensure overall understanding of the clinical relevance and key components of the article. The journal club assignment accounted for 20% of the overall course grade, 70% of which was derived from the facilitator's grade per the rubric and 30% from student performance on post-presentation quizzes. A voluntary anonymous post-survey was developed to elicit more formal feedback. The survey, developed by the course instructors, consisted of 13 questions and included demographic inquiries and questions pertaining to their perception of the journal club activity. The survey was created to understand student perceptions of the activity. The survey was reviewed by a group of faculty prior to administering to students. Perception questions were measured using a 5-point Likert Scale (strongly agree, agree, neutral, disagree, and strongly disagree). Descriptive statistics were utilized to report student responses to the survey. Bivariate analyses examined the relationships between the variables of interest using Pearson correlation or Chi-square where appropriate. A multivariable logistic regression model was completed to evaluate the associations between confidence in presenting a journal club or evaluating medical literature and prior presentation of a journal club or completion of the journal club elective course. Confidence scales were consolidated to two levels for regression studies where strongly agree and agree were consolidated to agree and strongly disagree and disagree were consolidated to disagree. An alpha value <0.05 indicated statistical significance. Statistical analysis was performed using SYSTAT Software, Version 13. The project was granted exempt status by the institution's Research Review Board.

### Findings

Eighty-four of 91 students enrolled in the course completed the survey (92.3% response rate). [Table 1](#) provides the survey questions pertaining to the journal club activity (other questions on survey were demographic) along with student responses. Most

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