Evaluation of a journal club assignment at a distance-education college of pharmacy

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Background

- Journal clubs
  - Meeting between group of participants with common practice to discuss and evaluate study design, results, and impact of research articles
  - History
    - Started by Sir William Osler at McGill University of Montreal in 1875 due to economic constraints on literature purchasing
    - Attendees encouraged to apply information to patients
  - Goals and purposes
    - Keep up with current literature
    - Teach and assess critical literature evaluation skills
    - Promote evidence-based medicine
    - Help link research to clinical practice
- Pharmacy education and journal clubs
  - Great method for developing critical literature evaluation skills
  - Common advanced pharmacy practice experience (APPE) rotation assignment
  - Exposure to concept in didactic education is variable

Purpose

- To compare the variability of student grades associated with a journal club group assignment at a distance-education (DE) college of pharmacy before and after modification from evaluation by multiple volunteer faculty members to a single faculty member

Methods

- Course
  - 2-credit hour drug information class taught in Fall semester of third year of traditional 4-year pharmacy school curriculum
  - Objectives include:
    - Develop drug information skills to perform responsibilities of APPE rotations and as a licensed pharmacist
    - Develop proficiency in critical literature evaluation
    - Cultivate teamwork and presentation skills
- Cohorts
  - 2008 and 2009 classes presented article live with various volunteer faculty members as evaluators
  - 2010 through 2015 classes recorded presentations with course coordinator and/or drug information resident as evaluators
- Outcomes
  - Student project grades
  - Available lecture time
  - Statistical analysis via SPSS
- Student’s t-test for comparison of continuous data

Results

- Student journal club assignment grades
  - Mean grades decreased significantly after modification to recorded journal club presentations (P < .001)
  - Variability of grades decreased (P = .2426)
  - 2008-2009 (n = 367): 90.72% ± 4.53
  - 2010-2015 (n = 1100): 89.20% ± 4.32
  - Available lecture time increased by 7 hours (Figures 2 and 3)

Results, cont.

- Table 2. Quantification of Annual Evaluators
  - Table 1. Comparison of Logistics of Journal Club Assignment
    - No journal club lecture
    - No journal club presentation example
    - No mechanism for grading criteria review
    - Article assigned
    - Live presentation
    - Limited to 5 students presenting
    - Live question and answer
    - Subjective evaluation tool
    - 6 domains at 15% each
    - Score range of 1 to 4 points
    - Single comments section at end of tool
    - Completed manually
    - Attendance = 10% of final grade
    - No attendance requirement

Limitations

- No control for confounding factors across different years, so did not account for potential for different student performance by class
- Components of student grade influenced by factors outside of evaluators’ control
  - Complete/incomplete components of evaluation tool (eg, attendance, peer evaluation)
  - Penalties for lack of participation of certain students in 2010-2015 cohort likely led to outliers, increasing variability
- Evaluation tool was modified each year, potentially impacting student grade variability
- Utilized drug information residents to grade small number of presentations in 2010-2015 cohort
- Grading recorded presentations outside classroom requires a great deal of time

Conclusions

- Modification to recorded journal club presentations at a DE college of pharmacy reduced average and variability of student grades on project
- Recording journal club presentations increased available lecture time, but increased grading time
  - Extra time used to increase active learning for course
  - Developing electronic tools for grading increased efficiency