

Research Formulation:

Research Topic: Journal Club Design
 Problem: Club Participant Engagement in the Context of Journal Club as an Educational Tool
 Question: Does the Use of Our Gamified Journal Club Improve Learner Participants Engagement and Perception of Educational Value

Background

Journal clubs are a fixture of modern higher education with a tradition dating back to 1835 with Dr. Paget in London, initially as a scheme to avoid the high cost of journal subscriptions. The tradition carried through to the modern era. While the format has remained the same, the use of journal club has morphed into a primarily educational experience in GME. Building on the experiences of other educational centers, we have endeavored to update the format.

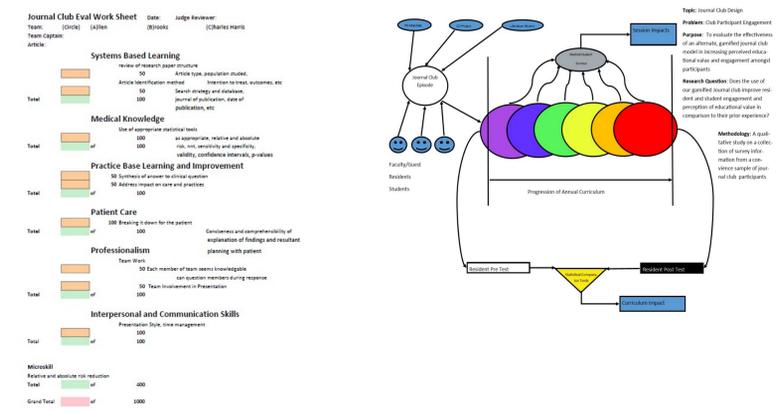
Curriculum Description

Gamified Journal Club Curriculum:

- Clinical prompt 1 month before meet
- Articles submitted 2 weeks before meet
 - 1 article per competing team responsive to the prompt
 - An individual from the off team selects a fun article
- 1 week before meet
 - Articles reviewed by faculty and approved
 - Sent out to journal club audience/invitees
 - Articles abstracted and sent out for judges
- Meet day
 - Fun article presents for 5-7 minutes
 - Teams each take 15 minutes for their article presentation
 - Judges assess team articles by score card (see below)
 - Includes projection of ACGME Core Competencies
 - Includes microskill for focus
 - Judges respond/audience questions for 30 minutes
 - Goal of capturing points
 - Last 5 minutes devoted to new clinical question
- Annually, champion team and MVP are memorialized on a perpetual plaque

Study Design

- Barriers
 - 2 different populations
 - Students – 1 visit before rotating off site
 - Residents – repeated exposures monthly through the academic year
- Approach
 - Students: Post exposure survey with 5-point Likert scale
 - Assesses attitudes relating to journal club and literature
 - Assesses perceived mastery of skills and educational value of the experience
 - Greater emphasis on free response
 - Residents: pre and posttest evaluation of
 - Attitudes relating to journal club and literature
 - Perceived mastery of skills and value of the educational experience
- Planned analysis
 - Descriptive statistical analysis of student surveys
 - Independent t-test analysis of resident responses



Results and Analysis

Question	Question Content	Pre-Post Difference	p for 1 tailed (t18)
Q1	How comfortable are you with reviewing primary literature	-0.82	0.14%
Q2	What tools have you used to conduct literature searches (i.e. pubmed, MedS, searches Medline, etc) (4)	-0.53	15.54%
Q3a	How comfortable is your understanding of and facility with serendipity	-0.23	23.45%
Q3b	specificity	-0.32	16.79%
Q3c	positive and negative predictive values	-0.73	3.67%
Q3d	p values and other measures of significance	-0.64	3.89%
Q3e	power analysis	-0.41	9.56%
Q3f	types of error	0.05	44.84%
Q3g	study validity	-0.45	9.83%
Q3h	Number needed to treat	-0.27	22.89%
Q3i	absolute risk reduction/relative risk reduction	-0.36	18.60%
Q4	How comfortable are you recognizing and naming various types of bias	-0.18	25.52%
Q5	How much do you enjoy literature search and review	-0.32	23.04%
Q6	How useful do you find primary literature search/review	-0.32	15.40%
Q7	How comfortable are you presenting and speaking on scientific research	-0.68	4.15%
Q8	How do you feel about journal club currently	-0.68	4.87%
Q9	How solid is your understanding of the idea of evidence based medicine	-0.68	0.53%

Question	Question Content	Average	Standard Deviation
Q1	How do you feel about journal clubs you have participated in in the past?	3.40	0.66
Q2	How do you feel overall about our current journal club format?	4.25	0.60
Q3	What was your level of engagement in the journal club meeting in comparison to other journal club meetings?	2.90	1.04
Q4	Please rate the level of enjoyment you experienced with this format	4.62	1.69
Q5	Would you like to participate in a similar journal club in the future?	4.20	0.87
Q6	To what level did the presentations expand your knowledge with regards to primary literature review	4.20	0.60
Q7	To what level did the period of follow up questions enhance your knowledge?	4.15	0.86

- Resident pre post results demonstrate near unanimous trend toward improved outcomes post exposure, with significant findings in Q1, Q3c, Q3d, Q7, Q8, and Q9
- Student descriptive statistics demonstrate similar although less significant changes from the instructed neutral position of 3 supporting the premise that journal club has improved survey responses in all areas except engagement
- Free responses from residents suggest landmark article incorporation
- Free responses from the students cite preference for better engagement, strong preference for the portion of meets devoted to explaining results to a patient, the structure of the sessions, and the interactive discussions

DISCUSSION

Our study demonstrates with some confidence that our gamified journal club curriculum:

- Promotes resident learner comfort with primary literature review
- Promotes a positive journal club experience
- Enhances formal discussions on scientific material
- Enhances learner perceptions of confidence in the concept of evidence-based medicine.
- Highlights improved learner perceptions of skill mastery with specific statistical microskills
- Demonstrates undergraduate medical learners enjoy the experience and feel it is worthwhile and exciting
- Suggests undergraduates would like greater engagement

It is hoped that these positive experiences will translate into an appreciation for primary source literature review that may facilitate a lifelong primary source learning and carry over into patient and population management.

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