Adopting Evidence-based Instruction through Video-Annotated Peer Review

Dr. James J. Pembridge, Embry-Riddle Aeronautical Univ., Daytona Beach

James J. Pembridge is an Assistant Professor in the Freshman Engineering Department at Embry-Riddle Aeronautical University. He earned a B.S. in Aerospace Engineering, M.A. Education in Curriculum and Instruction, and Ph.D. in Engineering Education from Virginia Tech. His research has focused on mentoring as pedagogy for project-based courses and understanding the adult learning characteristics of undergraduate students.

Ms. Lisa K Davids, Embry-Riddle Aeronautical Univ., Daytona Beach

Lisa Davids is an Associate Professor in the Engineering Fundamentals Department, having taught at Embry-Riddle Aeronautical University (ERAU) for 17 years. She is currently the Program Coordinator for the Freshman Engineering Department and serves as the course monitor and coordinator for the Introduction to Engineering course. During her tenure at ERAU, she has taught Fluid Mechanics, Dynamics, Experimental Aerodynamics, Aerodynamics I, Graphical Communication and Introduction to Engineering. She has served as the Faculty Advisor for the ERAU chapter of Society of Women Engineers as well as a Co-advisor for the all Women's Baja SAE Team at ERAU. Her research interests involve the retention of women in engineering degree programs and effective pedagogy in undergraduate engineering curriculum.

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James J. Pembridge, Lisa K. Davids

Embry-Riddle Aeronautical University, pembridj@erau.edu, david10b@erau.edu

Abstract – **When implemented as a community of practice, classroom observations have the potential to encourage both reflection and shared-vision of instruction that can lead to lasting institutional change within the cohort and the adoption of evidence-based instructional practices. This workshop illustrates the use of a video-annotated peer review (VAPR) process that can help facilitate any faculty cohort to implement the process. Through the workshop, participants will participate in a mock peer-review process using the VAPR tools, allowing them to develop an approach to making useful comments and identifying instances of evidence-based instruction that can help support diffusion of those practices. Participants of this workshop will also have the opportunity to examine barriers to the implementation of VAPR and develop actionable solutions to overcome those challenges.**

Index Terms – evidence-based instruction, teaching observations, peer-review

FACULTY PEER-REVIEW OF TEACHING

Higher education faculty, including engineering educators, are typically not formally trained in college teaching; instead they obtain knowledge about instruction and classroom management from their own experiences as a student, on campus faculty development, and communication with their colleagues [1-3]. Beyond student course evaluations, which have been shown to have limited reliability [4], there is little opportunity for instructors to receive feedback on their instruction unless it is formally requested or required for evaluative purposes. Beyond these opportunities, what happens in the classroom is rarely disseminated among colleagues.

Rather than being used for evaluative purposes, classroom observations, when conducted in a community of practice, can be used a means to disseminate effective instruction and develop faculty into reflective practitioners. Traditional classroom observations often involve one faculty member attending a colleague's class. Effective face to face observations involve the colleagues to meet prior to the instruction to discuss the goals of the course and identify any feedback for which they are specifically looking. The colleague will then attend the class, taking notes throughout, and then meeting afterwards to review the notes. A primary limitation to this approach is that issues or recommendations made can be vague or misunderstood due to a lack of connection to the context. In addition, the classroom observation requires scheduling between the colleagues, limiting the number of people that can observe the class, and the mere presence of another instructor can be disruptive to the class. An alternative to this traditional form of classroom observation, has been developed by the workshop facilitators that involves the recording of a class session and the structured annotation of the video classified as video-annotated peer review (VAPR) [5].

VAPR: VIDEO-ANNOTATED PEER REVIEW

Utilizing a commercially available web-based software platform, such as Swivl (shown in Figure 1), a community of practice of faculty implement the VAPR process by recording one of their classes in a given term, uploading the video and integrating it into an annotation software [5]. The video is then reviewed sequentially by an instructional support specialist and two other peers. Posted comments by the instructional support specialist identifies observed evidence-based instructional practices and opportunities for inclusion of those practices, as well as confirmations of teaching techniques and suggestions to improve practice. In this approach, each faculty member is observed by two of their peers and instructional specialist once per term. Additionally, they peer-review two of their peers, where they can see comments from their peers and the instructional support specialist during that same term. Throughout the peer review, reviewers can flag comments and video segments as being a good practice that should be encouraged or as a suggested revision to the instruction for approaches that are perceived as negative by the reviewers.
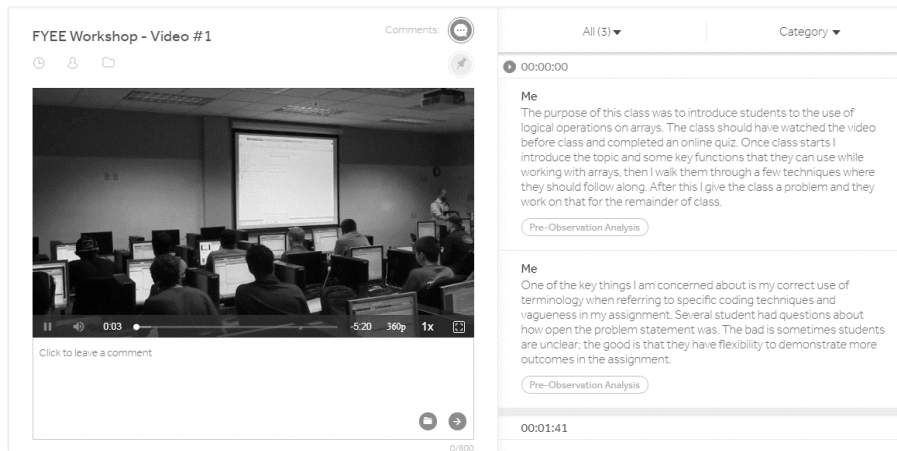
FIGURE 1
SAMPLE SCREEN CLIP OF SWIVL© INTERFACE USED FOR VIDEO-ANNOTATED PEER REVIEW.

The VAPR process has been implemented by the authors in a cohort of predominately first-year engineering faculty [6]. In comparison to traditional peer-review, this approach is designed to increase the level of concern and use, as prescribed by the Concerns-Based Adoption Model [7], of evidence-based instructional practices in the cohort. At the same time the use of the community of practice and peer-review process encourages instructional reflection and shared vision of practices that has been shown to support institutional change of practice [5,8].

WORKSHOP OBJECTIVE AND LEARNING OUTCOMES

This workshop seeks to encourage faculty to engage in peer teaching observations and to provide support on how to start a video-annotated peer-review system within their community. The workshop will also provide attendees with tools for the identification of evidence-based instruction within the review, offer tips on how to provide peer-review comments that will result in a lasting impact on teaching, and address common limitations of the video-annotated peer review system. By introducing video-annotated peer review in the workshop format, participants can overcome some hesitation to participating in classroom observations.

The learning goals for this workshop are that participants will be able to:
- Develop familiarity with the video-annotated peer review process
- Select software and tools that can be used for video-annotated peer review at their institution
- Utilize an inventory of comment attributes that are beneficial to peer review
- Reflect on their practice in relation to practices they observe in videos
- Identify evidence-based instructional practices observed in video observations
- Evaluate barriers and limitations to the video-annotated peer review process in their context and generate solutions to those limitations

The session activities will draw on frameworks associated with adoption of evidence-based instructional practices, communities of practice, and social reflexivity. This workshop has also been implemented at the 2017 ASEE Annual Conference and Exposition [9].

WORKSHOP AGENDA

The proposed session will be divided into five main sections: 1) introduction, 2) providing meaningful comments in video-annotated peer review, 3) identifying opportunities for the use of evidence-based instruction in video-annotated peer review, 4) addressing barriers and limitations to implementing peer review, and 5) summary of video-annotated peer review and general classroom observation.

I. Introduction

1) Moderators will provide an overview of classroom observation and peer review of teaching literature with respect to outcomes on teaching and learning (5 minutes)
2) Moderators will describe the VAPR process for classroom observation (5 minutes)

II. Providing Meaningful Comments

3) Working groups of 3-5, participants will be presented with a teaching scenario from one of the videos and will be provided several comments that encourage the continued use of a teaching approach. Groups will then work together and sort the confirmatory comments as having "low value" or "high value". For comments that have low value, groups will alter the comment to make it "high value". (10 minutes)
4) All participants will then generate characteristics of high quality peer-review comments on teaching. Moderators will present the findings from their own study to situate the participants' responses. (5 minutes)

5) Groups will then apply their knowledge of generating peer review comments on teaching and will then watch two 5-minute video clips of an engineering classroom and will generate comments that could be made to that specific video. Those that have mobile devices or computers will be able to use a software supplied by the moderators. Moderators will also bring a few computers with that software loaded for those that would like to work in the digital environment. Other participants will be able to use a paper version of the system to log the comment. The participants will then discuss the comments they made to refine their practice (20 minutes)

III. Identify Opportunities for Evidence-Based Instruction

6) Moderators will review the types of evidence-based instructional practices and provide participants with tools for identifying them in video observations. (5 minutes)
7) Groups will watch one 5-minute video and will use the tools to identify what type of evidence-based instructional practice it is. Discussion will focus on how that practice was identified using the tools. (15 minutes)

IV. Addressing Barriers to Implementing VAPR

8) Moderators will provide participants with a summary of available software systems and tools that can be used by anyone to implement VAPR. In groups participants will explore the different options and identify barriers and limitations. Previously identified barriers to implementation include, but are not limited to technology limitations, time to conduct peer reviews, and resistance to changing instruction. Together, participants will generate solutions to overcome these limitations. (10 minutes)

V. Session summary

9) Moderators will summarize the outcomes of the session and open it to general discussion about classroom observations and peer review. (5 minutes)

INTENDED AUDIENCE

The intended audience of the workshop includes faculty who are interested in developing a community of practice focused on classroom observation and the sharing of instructional techniques. While VAPR has only been implemented in a cohort of first-year engineering faculty, the approach can be seamlessly integrated in any faculty cohort and has the potential to support teaching assistants and graduates students as they develop their identities associated with instruction.

ACKNOWLEDGMENT

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AUTHOR INFORMATION

James J. Pembridge, PhD Associate Professor, Embry-Riddle Aeronautical University, pembridj@erau.edu. His research examines the diffusion of evidence-based instructional practices.

James K. Davids Associate Professor, Embry-Riddle Aeronautical University, david10b@erau.edu. Lisa Davids is Program Coordinator in the Engineering Fundamentals department and has had had integral participation on the University's Evaluating Teaching Effectiveness Committee, and her service as the Peer Review Sub-Committee Chair for that committee.