



They “Like” It! Use of Web 2.0 Technologies on Advanced Pharmacy Practice Experiences

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Background & Significance

- Pharmacy education literature has studied Web 2.0 technology use in didactic coursework but has yet to investigate its role in experiential education. This study aims to examine the impact of Web 2.0 technology on student engagement as well as changes in student participation and attitudes during the rotation.
- Web 2.0 technology resources, which are used to facilitate the sharing of information between individuals online, used in this study include Facebook® for informal posts and WordPress® for blogging as a more formal writing exercise.
- The internal medicine Advanced Pharmacy Practice Experience (APPE) involved in this study included six-week rotations conducted between September 2017 and April 2018 with Drs. Stephanie Sibicky and/or Alexa Carlson.
- Minimum Web 2.0 technology posting requirements for students on Facebook and WordPress:



#OTILT: one thing I learned today (daily)

#drug info: responses to questions from presentations or pharmacy rounds

#TILTW: things I learned this week (weekly vlog)

WordPress weekly drug information blogs

Response to periodic Facebook polls by preceptors



Objectives

- Collect both quantitative and qualitative data about the impact of Web 2.0 technologies on student engagement and learning as well as overall satisfaction with their experiential education experience.
- Evaluate the effectiveness of Web 2.0 technologies when used on experiential pharmacy rotations and disseminate the findings to the broader pharmacy educational community.
- Consider how results may be impacted by confounders including number of students on each rotation (three vs. six), new required elements, and time of rotation completion.

Methods

Recruitment

- Carlsibicky internal medicine APPE students between September 2017-April 2018
- Northeastern University's Institutional Review Board determined the study did not require full IRB approval as it was considered to be course quality improvement

Survey

- Voluntary, anonymous Qualtrics® survey distributed via Facebook
- 3 multiple choice questions
- 5-point Likert scale (47 total statements)
- 4 open response questions

Counting

- Facebook “Likes,” comments, poll responses, and WordPress blog comments tracked for each student
- Individual student engagement compared between students completing their rotation during the same six-week period.

Results

Qualitative Data

Reported more positive opinions on technology after the rotation compared to original apprehension or indifference	Enhanced overall learning, written and oral communication skills, and ability to navigate literature
11 student responses	Suggestions for Improvement 1. Detailed requirement explanations 2. Addition of adaptive cases

Quantitative Data by Rotation

Table 1: Student Engagement by Rotation

	No. of students	“Likes”	Facebook comments	Poll responses	Blog comments
Rotation 1	3	293	140	117	17
Rotation 2	6	692	276	286	40
Rotation 3	3	88	170	30	17
Rotation 4	6	417	666	134	2

Quantitative Data by Student

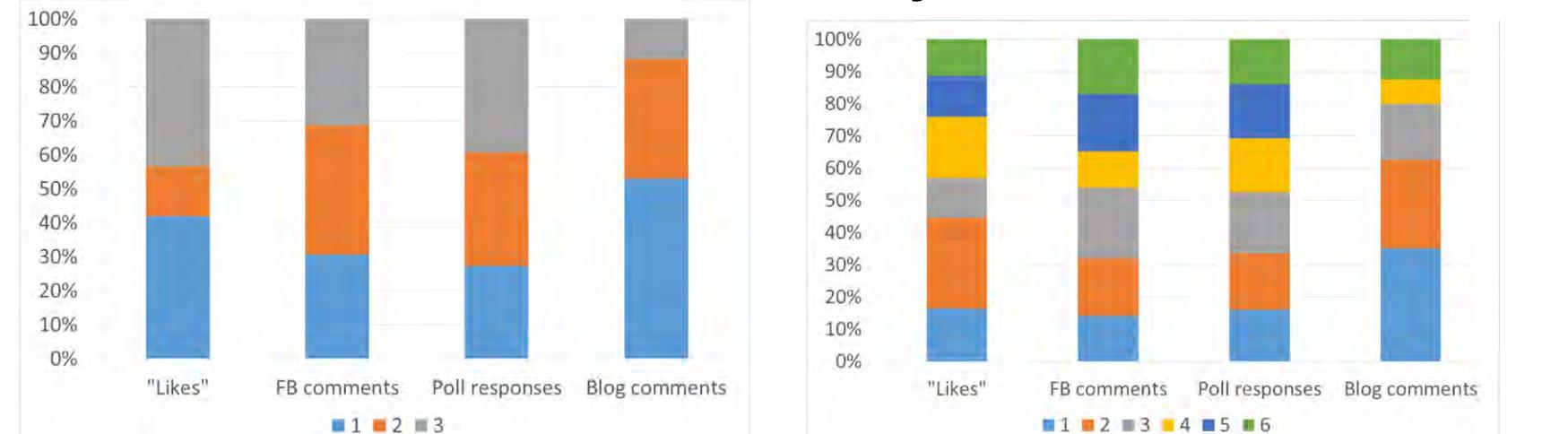


Figure 3: Rotation 1

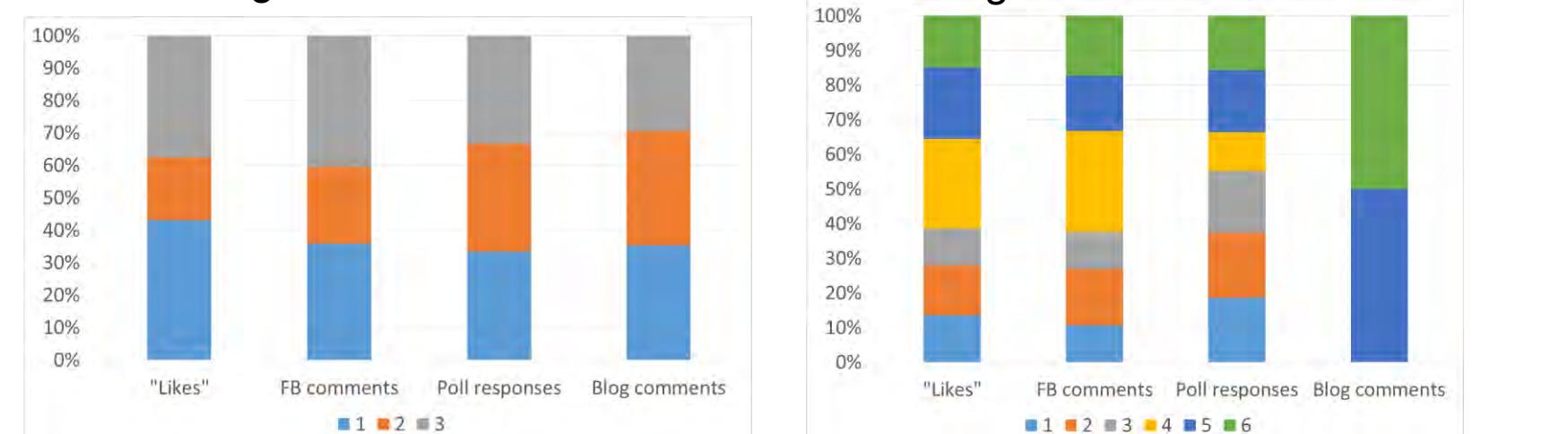


Figure 5: Rotation 3
Figure 6: Rotation 4

Discussion

- Would expect approximately 200 posts per three student rotation and 400 posts per six student rotation based on rotation-specific posting requirements.
- Student engagement was monitored even after a rotation ended.
- Adaptive (interactive) case requirement added to rotation 4 likely contributed to much higher number of Facebook comments compared to its similar size counterpart (rotation 2) and may have contributed to the lower blog comment count.
- Number of polls posted by preceptors was not consistent across rotations; rotations with higher poll participation may have simply had more polls provided.
- Sample size was limited by preceptor availability to take students during a specific rotation as well as regulations governing student to preceptor ratio. Sample size could be increased by lengthening the study or adding more preceptors and their students.

Conclusions

- Survey responses suggest that Web 2.0 technology positively impacts student engagement and learning. Written and video blogs resulted in subjective improvement in communication skills.
- Quantitative data suggests students were more engaged in Facebook compared to the WordPress blog. This difference may be due to increased familiarity with Facebook or the fact that most assignments were completed on Facebook rather than the blog.
- Despite a small sample size, these results suggest that implementing Web 2.0 technology on pharmacy rotations is an effective teaching methodology that promotes student engagement and supplements in-person experiential education.
- Areas for improvement recommended by students include more detailed explanations of technology requirements and addition of adaptive cases to the learning model (as seen in rotation 4).
- Preceptors will continue to use Web 2.0 technology on APPEs.

Acknowledgements

Northeastern University Carlsibicky APPE students from academic year 2017-2018 who offered feedback and participated in new technology incorporation as well as voluntarily participated in the survey.