Analysis of Course Evaluations, 2020

UW Information Technology

Office of Educational Assessment

Course evaluation items analyzed

Items included in mid- and end-of-quarter course evals

1) What is helping you to learn in this course?

2) What is hindering your learning in this course?

Items included in end-of-quarter course evals

1) If this course were offered remotely again, what suggestions do you have to improve the student experience?
2) If this course were offered remotely again, what suggestions do you have to improve the course?

Approaches

- Inductive process of constant comparison to identify themes (OEA)
  - 500 randomly selected responses, mid-quarter course eval data only

- Topic modeling (Latent Dirichlet Allocation) to identify common topics (UW-IT)
  - Analyzed complete data set, employed for both mid- and end-of-quarter course evals

- Structural topic modeling to determine differences in prevalent themes between mid-quarter and end-of-quarter evals (UW-IT)
  - Analyzed complete data set, employed for both mid- and end-of-quarter course evals

- Sentiment was measured by calculating the average sentiment of each word per document using AFINN sentiment scoring (indicating negative to positive on scale from [-5, 5])
  - Analyzed complete data set, employed for both mid- and end-of-quarter course evals

Sample for mid-quarter evaluations

Same approach used for both sets of evals: courses with fewer than seven student responses were excluded; presentation only includes Seattle data; findings from campuses were indistinguishable

Question	Total Responses	Number of Courses	Avg N of responses per Course	Avg N of words per response
What is helping you to learn in this course?	11420	534	21.39	16.67
What is hindering your learning in this course?	10561	502	21.04	24.5
What can your instructor do to improve your learning in this course?	9860	477	20.67	24.82

Sample for end-of-quarter evaluations

Question	Total Responses	Number of Courses	Avg N of responses per Course	Avg N of words per response
What is helping you to learn in this course?	26889	1627	16.53	20.62
What is hindering your learning in this course?	24376	1504	16.21	23.34
If this course were offered remotely again, what suggestions do you have to improve the course?	15843	947	16.73	24.24
If this course were offered remotely again, what suggestions do you have to improve the student experience?	16472	973	16.93	24.49

If this course were offered remotely again, what suggestions do you have to improve the student experience?

Four distinct topics were identified, the first was the most prevalent

1. Usage of class discussions and breakout rooms

Well-coordinated discussions and breakout rooms allow students the opportunity to collaborate and discuss content, as well as simply interact with their peers

"Post questions prior to class for students to come to class prepared to answer or discuss. Engage with the material and the class as much as possible. Find a way to encourage or make people participate more ... I found that was pretty effective at keeping me more engaged."

If this course were offered remotely again, what suggestions do you have to improve the student experience?

2. Rethinking lab sessions may be necessary

Even with office hours, students say that labs feel inefficient and unnecessary

"I find that handing out lab reports that are the same as previous quarters is not a good way to learn and demonstrate knowledge of the lab since the learning experience is drastically different … not having hands on experience is a huge disadvantage when needing to complete a lab report regardless of the videos and lab manual provided."

If this course were offered remotely again, what suggestions do you have to improve the student experience?

3.   Restructuring examinations and testing to fit remote learning

Students believe that the current format of testing is overly strenuous and not a fair reflection of understanding

"A different examination style. People are already living in very uncertain times, why add more stress in the exam style especially when it is already open book? ... Holding weekly quiz sections would be very useful... One thing i would suggest is to give more time for the exams because it was long and very hard to finish in fifty minutes."

If this course were offered remotely again, what suggestions do you have to improve the student experience?

4.   Improving organization and utilizing live lectures with recordings

Students desire course content in one place and having the option to attend live discussions as well as the opportunity to experience lectures asynchronously

"A little more organization and it would be perfect... I enjoyed the material greatly but I feel that I would have benefited from knowing my responsibilities as the quarter began especially with the circumstances of remote learning."

If this course were offered remotely again, what suggestions do you have to improve the student experience?
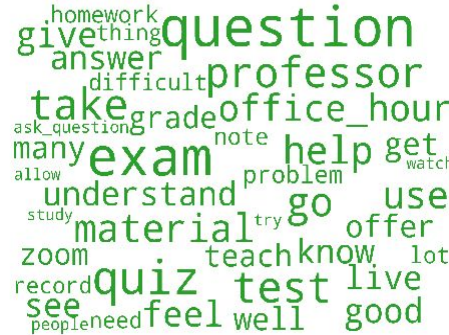
Common keywords for each topic
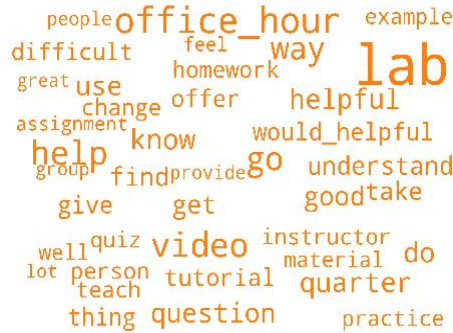
If this course were offered remotely again, what suggestions do you have to improve the course?

Three distinct topics were identified, the third being the most prevalent

1.   Students suggest instructors should provide more diverse content

Providing past exams, working through different types of examples, and increasing the number of examples are all desired

"*Have more similar problems and work them backwards and forwards. Don't just have one type of problem- write down how to do it and move on to the next… I wish there were multiple problems of the same type worked one way and worked the other way around*"

If this course were offered remotely again, what suggestions do you have to improve the course?

2. Collaboration is valued when it is integrated gracefully

Students prefer synchronous collaboration in the form of in-lecture discussions, and dislike out-of-lecture group work. For asynchronous collaboration, students would rather utilize discussion boards

"Posting discussion board assignments that are relevant to the topics covered that week, and then requiring students to answer and respond to three of their classmates' posts helps keep students on track with material and engaged in difficult but necessary conversations with each other."

If this course were offered remotely again, what suggestions do you have to improve the course?

3.   Clear communication of expectations from instructors is necessary
Students frequently mention being confused by grading structures, rubrics, and project goals, while often mentioning that these concerns overshadow primary course objectives

"I would suggest having a clear objective to the paper written on the canvas assignment. It felt like i was glancing over the surface level of [the course topic] due to the number of questions needing to be addressed and with the page count. I also think it was stressful because student were more worried about the structure and organization of the paper rather than the quality of their work due to the grading style of the class"

If this course were offered remotely again, what suggestions do you have to improve the course?

Common keywords for each topic
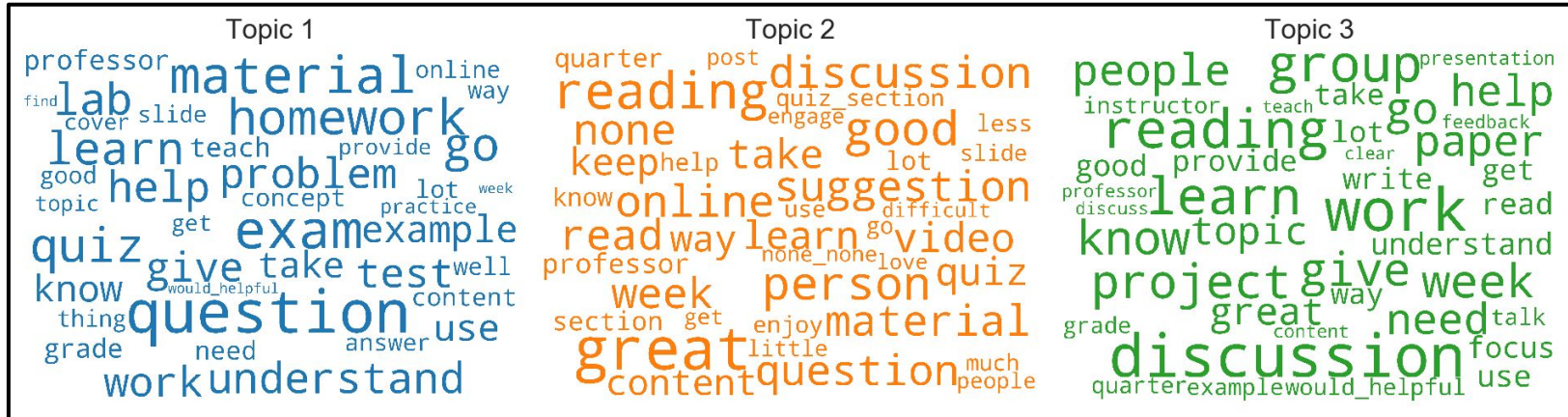
Comparing mid- and end-of quarter evals

- Using a Structural Topic Model (STM), we are able to compare topic usage between repeated questions in mid-quarter and end-of-quarter course evaluations.
  - While STM uses LDA, this method treats responses from the different times as being in their own "groups" and is able to evaluate differences in phrase and topic usage
- With STM we find no significant difference in topic usage between mid-quarter and end-of-quarter evaluations for both questions
  - Utilizing the same number of topics as we find in the mid-quarter evaluations, our STM indicates that evaluation responses from both time periods results in similar topics
  - While this reinforces our findings from the mid-quarter evaluations- when considering what detracts from student learning, we may not see a decrease in some topics used in the end-of-quarter evaluations since students may still mention past issues they faced prior to the mid-quarter evaluations

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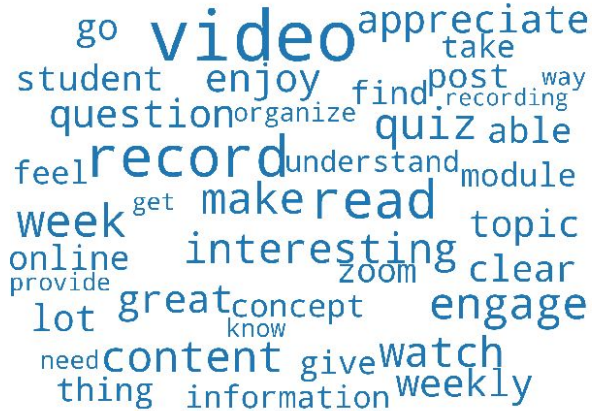# What is helping you to learn in this course?

Three topics were identified

1. Instructor ability to provide sufficient course material and resources
   - Students mentioned worksheets, office hours, example problems/exams, textbooks

2. Available lecture material and course interaction
   - Ability to view organized and engaging videos, recordings, readings weekly

3. Group work
   - Students mention group discussions, breakout rooms/ groups, guest speakers, group projects

What is helping you to learn in this course?
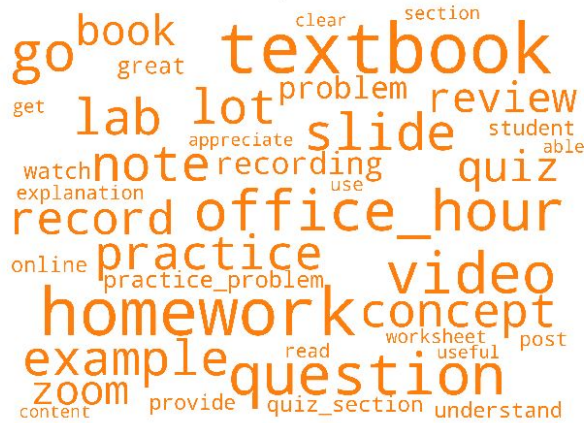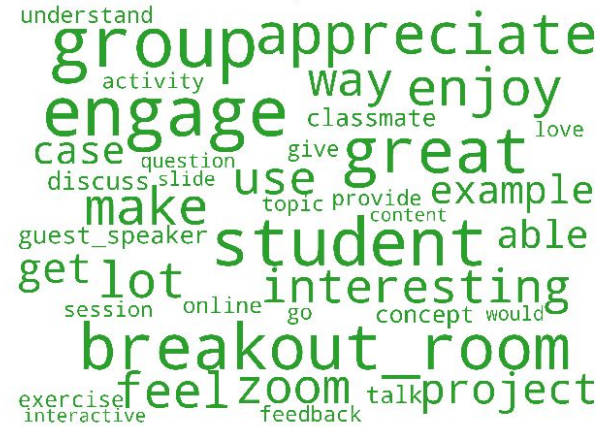
The topics were equally important

What is helping you to learn in this course?

"The lectures are easy to follow and I like that the problem sets require me to really think about what I learned and how to apply that to actual problems. It helps the information stick with me better."

"Attending the lectures and reading the course material is helpful in learning about the material."

"The clearly laid out syllabus and the lectures."

*"Organized modules for each week and consistent lab due dates."*

"Clear link between lectures and assignments. Clear expectations."

"The instructor uploads his notes and Powerpoints shortly after each class, which is a good reference for me."

What is hindering your learning in this course?

Five topics identified; topics 1-4 are most important

- Topic pairs 1 & 2 focus on **course content** & **instructor interaction**

- Topic pairs 3 & 4 focus on **personal issues** & **peer interaction**

- Terms that occur often within all topics include: zoom, canvas, talk, amount, understand, overwhelm, engage
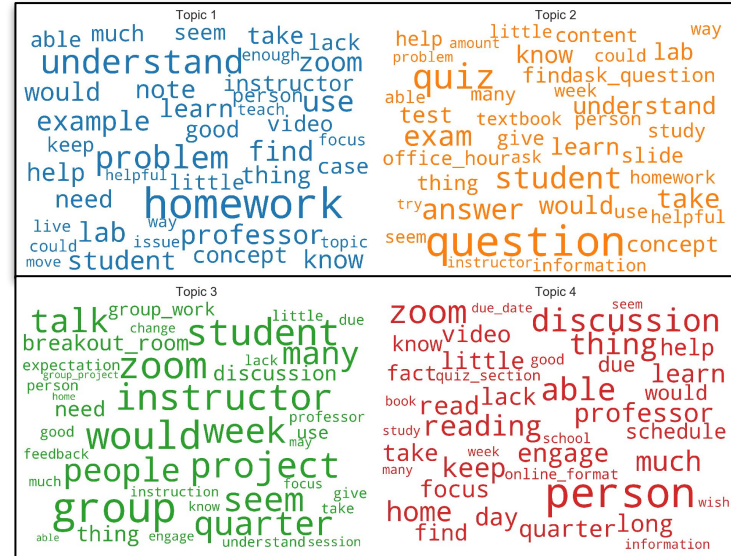
What is hindering your learning in this course?

"Online learning, the lectures are not entirely beneficial given that they rarely go through examples and when they do go over examples it takes up a lot of time to go over only one. "

"Lack of motivation, inability to communicate with my team as often as needed, miscommunication because of shortened meet times... feeling like I can not do enough, no class life balance, long hours of screen time causing sleep problems, and (instructors) adding to the difficulty."

"Setting up these sessions outside of class hours is also more difficult as we do not have a physical space where this would have happened more naturally... this used to happen all the time with instructors as well as peers in the studio and significantly helped improve the learning process."

"The workload for this course is significant between reading load, case analysis, discussion boards and memos. This leads to some weeks I'm picking and choosing what I can realistically get done."

"I generally work better when I am around other people who are also working, so being isolated from my general friend and study groups has made my motivation much lower than it normally is."

Key takeaways

If this course were offered remotely again, what suggestions do you have to improve the student experience?

1. **Clear communication** with peers and faculty is strongly desired

    a. Students would like their instructors to implement well structured in-lecture discussions and encourage engagement with discussion boards about course content

    b. Students prefer direct communication around assignment and course expectations

2. Increasing **efficiency in remote learning** is likely to reduce extra stressors

    a. Instructors should consider keeping all course content in a single location, rethink usage of lab/ quiz sections, and utilize recording features during live lectures

    b. Current methods of administering examinations and testing in remote learning feel convoluted, and moving towards more project-focused coursework could benefit students

Key takeaways

If this course were offered remotely again, what suggestions do you have to improve the course?

1. As with the previous item, **improving communication** is the most widely requested suggestion for improving the course in a remote setting

   a. Instructors should effectively communicate course content, expectations, grading policies, goals, etc.

   b. Students want to discuss with peers through in-lecture discussions and online discussion boards

2. Amplifying the **usage of examples** may be impactful in learning course content while remote

   a. Utilizing real-world examples, working through more diverse and unique sets of problems, and providing a higher volume of examples could help many students

Key takeaways

What is helping learning?

1. Courses that are well-organized with clear expectations, and provide high-quality assessments, example problems and exams

2. The convenience of recorded lectures, additional online resources (YouTube, Khan Academy), and breakout rooms/online study groups

3. Instructors' passion for the material as well as their understanding and flexibility during the pandemic and transition to online learning

4. Interactions with the instructor and classmates, group projects, group discussions, breakout rooms/ groups, guest speakers

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Key takeaways

What is hindering learning?

1. Course structure/organization including course pace, lecture length, grading, and expectations

2. Course content, subject matter, unclear explanations, and high workload

3. Aspects of online learning: issues with technology, feelings of disconnect between classmates and/or professors, limitations of online class discussion, ineffective breakout groups, and difficulty to engage and focus

4. An increase in stress and anxiety as a result of the pandemic, leading to difficulty focusing on schoolwork

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Contributors and contact info

UW Information Technology

Henry Lyle, Ph.D. lyle3@uw.edu

Peter Seibel pseibel@uw.edu

Florencia Marcaccio fmarca@uw.edu

Office of Educational Assessment

Angela Davis-Unger, Ph.D. acd2@uw.edu

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