Using student course surveys to improve inclusive and accessible pedagogy

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Redesigned student experience surveys about specific teaching practices

The University of Oregon, as part of a larger initiative to revise teaching evaluation, recently redesigned end-of-course Student Experience Surveys (SES) to remove numerical ratings and shift toward asking targeted questions about specific teaching practices. The change was spurred by research indicating bias In numerical course evaluations against female faculty and faculty of color.

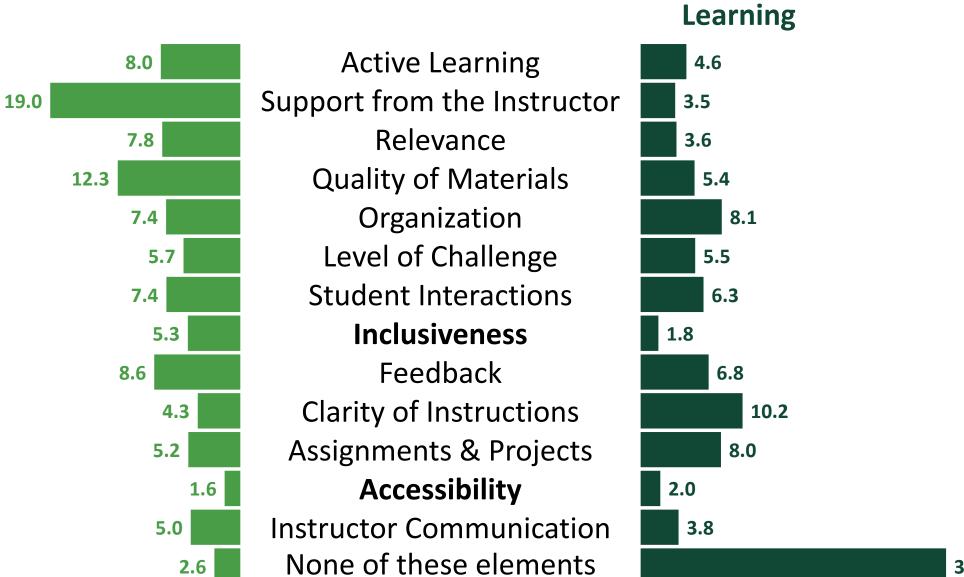
Goals of new Student Experience Survey:

- Remove numerical ratings
- Ask targeted questions about specific teaching practices
- Collect both positive and critical feedback

In the new survey, student selects the single teaching practice they consider most beneficial to their learning and a single teaching practice that needs improvement in order to support their learning and are then prompted with specific prompts to leave textual comments about both answer choices.

Most Beneficial for my Learning





Teaching practices selected as most beneficial and most in need of improvement for student learning Data include 116,331 student responses from 14,413 courses and 2,866 individual instructors.

After selecting a teaching practice, students are prompted to write a specific comment about why that teaching practice was beneficial or in need of improvement.

Inclusiveness

What specifically about the inclusiveness of the course helped your learning?

What specific change in the inclusiveness of the course would help your learning?

Accessibility

What specifically about the accessibility of this course helped your learning?

What specific change in the accessibility of the course would help your learning?

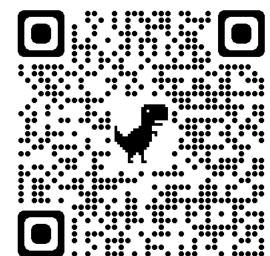
Implications of new surveys

- The redesigned survey has three relevant implications for improving inclusive teaching on our campus:
- 1) student feedback about the inclusiveness of courses is included in teaching evaluation processes, 2) instructors see feedback from students about their perceptions of the inclusiveness of courses, and
- 3) we can learn how students describe inclusive teaching on our campus

Academic Data Analytics Practitioner Guides & Methods



Revising UO Teaching Evaluation Survey, Process & Resources



Student Perspectives on...

Inclusiveness

Student Voices

Students comfortable speaking in class

"I liked how we all were encouraged to speak in the class and that our opinions mattered."

Welcome more voices/mitigate dominating students

"Give students the opportunity to speak up by encouraging those with louder voices to have others heard."

Specific facilitation recommendations

"I think it would be helpful if the instructor set some standards for constructive and respectful discussion, especially in terms of acknowledging the life experiences of underrepresented groups in class..."

Welcoming questions

"I was terrified of asking questions because I was afraid of being ridiculed by even thinking of asking a question you didn't deem

Use Inclusive Language

"Out of all my classes, I felt the most welcomed and respected here. I'm pretty sure everyone always used the correct pronouns (I'm trans) and I even had one instance of another student calling someone out for mis-gendering me."

"Being a non-binary person it would have been nice to see more gender-inclusive language"

Student interactivity in the course

"I believe this class if possible can become more of a discussion with students rather than just slides"

Diversify Content

Diverse perspectives & impact on communities

"Being Native American, I felt more invested in this class when everyone discussed the impacts that [topic] has had on Indigenous people..."

"As one of the two women of color in this class, I appreciate [the instructor's] effort to address racial issues in [class content]. "

Authors & Guest speakers

"We need class materials written by black, indigenous and/or people of color. We need more guest speakers that come from intersectional identities."

Student Choice and relevance of content

"Because we each have to present on the readings as well as our projects, it really includes people and their interests in giving them the freedom to choose what they want to report on that interests them the most."

Accommodating student needs

"[Instructor] is an ideal example of how faculty should manage their courses if they care about equity. [...] In response to our needs, she adapted the course syllabus and modified some course expectations to ensure that (a) we continue to receive a quality education, and (b) we could maximize our learning in our changing context."

"The grading in this course is WAY too test heavy, students who are not strong test takers/need more hands-on learning are at a disadvantage and less grading weight should be based on tests"

Accessibility

Ensure Access to Accommodations

"I just hope that in the future, they can learn more about accommodations so that they can really accommodate for other disabled students. I think it should be mandatory for every instructor to learn about accommodations and it isn't at all exclusive to this instructor. I find it sort of shameful how often disabled students (including me) are not properly accommodated for because of the university's lack of enforcement."

"I have accommodations through the AEC, and this instructor is the first instructor in 2 years who actually made an effort to make the classroom accessible to me."

Organized & Accessible course materials —

"Everything on Canvas was easy to find and read! The instructor does a great job on uploading lectures and including written explanations of topics (in case you miss a day of class or need to review before an exam). "

"The website and clear deadlines and expectations were great. Gave us all the information we needed to know from day 1. Super straight forward and to the point and I enjoyed that very much."

Design for Flexibility

"While I understand and respect the instructor's emphasis on equality, I do think it's important that the professor remain flexible for students. Some, with documentation or not, require classes accommodate differing learning styles, abilities, levels responsibilities, etc. It's like that equity vs. equality meme/photo... some people need more to be at a vantage point equal to others."

"I love that they made the lectures available for us to watch on our own time. This helped me so much because I could watch them when I wanted and at the speed I wanted. I wish it was like this all the time and I love that they understood that the flexibility to do what's best for us is important."

Affordability

"The textbook is very expensive and I believe that the class would be more accessible if there was a cheaper textbook available."

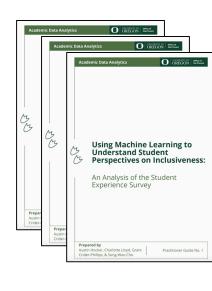
"The textbook is irrelevant and too expensive. It's time to end the tyrannical rule of textbooks."

"I spent 100 dollars total on one class just on textbooks but this instructor made sure to not make us buy any and used pdfs instead so that was really amazing!"

Using student responses

Most importantly we are embedding what we learn from student perspectives into campus conversation about inclusive teaching. Leveraging student responses across campus provides locally relevant and concrete practices instructors can implement to make their teaching more inclusive and accessible.

Practitioner Guides



Professional Development



Share back to students



Machine Learning for thematic analysis

To identify themes from student responses, we used a hybrid approach combining traditional close reading with a machine learning approach called Latent Dirichlet Allocation (LDA), a topic modeling technique that identifies underlying themes in text by looking for latent groupings of words. We used LDA as an exploratory tool to present common topics of student comments, which the researcher analyzed and synthesized into themes.

The value of using LDA in this process comes from the speed and neutrality of the algorithm's topic groupings, which offers the researcher fresh ways of looking at the data that are relatively unconditioned by their prior expectation about what themes are present in student responses. With LDA categorizations as a starting point, the researcher's human judgment and experience with student surveys are then crucial for integrating topic model results into a rich qualitative understanding of student experiences of inclusiveness.

Raw Text

Student surveys

Using the virtual lab to complete assignments with Microsoft Access adds a lot of preparation and lag time while completing assignments—this makes things unnecessarily hard, and should be changed I think.

Text Cleaning

Remove punctuation and special characters

Using the virtual lab to complete assignments with Microsoft Access adds a lot of preparation and lag time while completing assignments this makes things unnecessarily hard and should be changed I think

Lemmatization

Remove inflections and convert each word to standard conjugation

use the virtual lab to complete assignment with microsoft access add a lot of preparation and lag time while complete assignment this make thing unnecessarily hard and be change -pron- think

Stop Words

Remove common words that don't add meaning

the, to, with, a, of... dr., professor, instructor, and teacher

use virtual lab complete assignment microsoft access add preparation lag time complete assignment make unnecessarily hard change think

Latent Dirichlet Allocation (LDA)

Identifies common patterns of word use across student comments

Processed Comments Bag of **Identify Topics or Latent Groupings**

patterns of words

Presents topics based on

mixture of topics

Comments are

Human Topic Synthesis

While the analysis pipeline is useful for its speed and objectivity, it is not sufficient on its own for thematic analysis. However, a human reader can quickly convert LDA identified topics into common and meaningful themes by identifying the meaning of a topic, omitting common word patterns that don't add meaning, looking for overlaps between LDA presented topics, and identifying homonyms and similar words used in different contexts.

■0 ■1 ■2 ■3 ■4 ■5

Plot of topic mixture for each comment about Inclusiveness

Read topic word-lists for context

Sample well-matched comments from each topic

"**I feel**" statements Look for meaningless word patterns "I mean" vs "is mean" Identify homonyms Different meanings based on context "class work" vs "couldn't attend because of work"

Sample random comments from each topic