Educational Measurement and Equity: The Evolution of Our Graduate Program

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Abstract: We share the creation and evaluation of a faculty professional development course aimed to create a culture within an educational measurement graduate program that acknowledges the history and current practices of the field and supports faculty and students in using assessment and methods for good rather than harm. Eight educational measurement faculty members participated in a needs assessment to understand their knowledge and skills in equity-centered assessment. Results indicated moderate to high value for equity-centered assessment but lower confidence in their skills, with barriers including time constraints and task difficulty. The year-long professional development increased faculty confidence related to equity-centered concepts, leading to several program-related changes, which included the addition of a new course and integration of equity topics in monthly program meetings with students. Faculty also incorporated an equity focus into their advising and courses, engaging students in equity-centered projects and assignments. Graduate assistantships were also adapted to include opportunities for equity-centered assessment practices should students seek them out. Faculty reflections highlighted the transformative impact of the professional development. We call for continuous professional development supported by organizational (e.g., APA, NCME) and institutional backing to enhance intentional integration of equity into graduate program curriculum and practices in educational measurement.

Keywords: Educational Measurement, Equity, Competencies, Faculty Training

Introduction

Graduate programs can and should evolve as their discipline changes. Over the past 25 years, our graduate program in educational measurement experienced what colleagues may consider typical

incremental program-related changes. These changes were facilitated by twice-a-month working faculty meetings with collegial conversations focused on preparing our students for contemporary assessment issues. These changes included course-specific modifications (e.g., updating readings) and program-specific modifications (e.g., internship expectations, course offerings, comprehensive exam process).

Our faculty have also experienced times when significant change is necessary, either due to external circumstances or internal motivations. For example, during the Covid pandemic, our faculty learned how to offer educational experiences via different course modality. Occurring at a similar time, evolving societal consciousness and critical examination within the profession prompted deep reflection on social justice issues generally and in the domains of measurement and methodology. It was during this time that we decided to make a change to our program to better address equity considerations in our courses and learning experiences. That is, instead of the incremental and typically uncoordinated changes made in the past, we needed a more holistic and systematic change to the program. This need prompted the creation, implementation, and evaluation of the faculty professional development described here. However, first let us explain why we decided to pursue this change in our program.

Although our graduate program focuses on educational measurement and methods, our program is housed in a psychology department. The American Psychological Association (APA) published a historical chronology of the perpetuation of inequity for people of color (2021b), an apology for APA's role in racism and discrimination (2021a), and a resolution for moving forward to dismantle racism (2021c). In the resolution, APA noted that research training has inadequately equipped psychological scientists to recognize, understand, and remedy systemic inequities, including using measurement tools normed on White populations and underusing participatory methods that stress collaboration with affected parties. To resolve these and related issues, APA (2021c) noted the importance of training professionals to address the following related to measurement and research methods. Ensure all professionals can and will:

- recognize, understand, and address historical and contemporary roots of the field in White sociocultural norms;
- help to dismantle systemic and structural racism that has disproportionally excluded perspectives, scholars, and samples of people of color from research;
- engage in sampling more inclusive of participants of color and integrate intersectionality so research results are applicable beyond White middle class populations;
- conduct research across the epistemological continuum, including not only positivist and postpositivist paradigms, but also constructivist and other critical paradigms.

Need for Faculty Professional Development in Equity Issues

Ensuring this type of training of professionals requires that the graduate faculty have the necessary knowledge and skills. Thus, APA (2021c) encouraged higher education institutions and graduate psychology training programs to do the following:

- "develop and regularly evaluate the climate for equity and inclusion"; (p. 3)
- "regularly train students, faculty, and staff regarding institutional antiracism and anti-racist policies and expectations;" (p. 3)
- "systematically review instructional materials and goals, and incorporate greater attention to psychology's historical role in perpetuating racism;" (p. 3)

Our graduate program was not engaged in any of these three activities.

Moreover, The Code of Professional Responsibilities in Educational Measurement (National Council on Measurement in Education, 2023) describes the professional responsibilities of individuals engaged in educational assessment activities, including those responsible for educating others about assessment. The Code states that these educators are responsible for remaining current and competent in the areas they instruct, teach the consequences of any assessment process if it poses potential harm to any individual, and to provide balanced and fair perspectives on assessment issues being discussed by parents, policymakers, and other citizens. We believed our graduate program needed to be updated to better achieve these responsibilities (and others listed), which necessitated faculty professional development related to equity and inclusion.

Further, NCME created the Foundational Competencies in Educational Measurement (Ackerman et al., 2024). Articulating these competencies could potentially improve the training of educational measurement professionals. The subdomain of "Social, Cultural, Historical, and Political Context" focuses on the contexts in which educational measurement occurs. These "context competencies" include the ability to identify social, cultural, historical, and political influences on the measurement process. These influences impact construct definition, interpretation of scores, and the communication and use of results. "Designing engaging instruments and administration conditions, interpreting and rating responses, and communicating results require educational measurement specialists to be responsive to and inclusive of the diverse social, cultural, and historical influences respondents bring to their interactions with instruments." (Ackerman et al., 2024, p. 10 – 11). These expectations of educational measurement specialists are a step towards more valid interpretation and use of test scores. With that said, there have been critiques that the NCME competencies do not "go far enough" with respect to expectations of equity and inclusion knowledge and skills (e.g., Crespo Cruz et al., 2024; Ho et al., 2024; Van Orman et al., 2024). However, we were uncertain if the faculty teaching our courses and training our students had these foundational context competencies, much less could promote and enhance these competencies.

Thus, our purpose was to create a culture within the graduate program that 1) acknowledges the racist history and current practices of the field by developing awareness and 2) creates support for faculty and students as they build their skills to use assessment and methods for good rather than harm. Developing a sustainable and tailored professional development opportunity for faculty was one major path to achieving the field's expectations. Moreover, we could respond proactively to the broader call for graduate programs to advance equity and inclusion, even amid "the resurgence of backlash and erroneous politicized attacks on diversity in higher education and its impact on E&I efforts" (Kanagala et al., 2025, p. 248). We, like the NCME competencies, may not "go far enough" with respect to preparing faculty to teach and model equity-related skills, but we thought it helpful to share our three-year journey to this end.

Needs Assessment to Identify Confidence, Values, and Barriers for Equity-Related Efforts

We made use of Expectancy Value Theory (EVT; Wigfield & Eccles, 2000) to understand the influences on engagement of our faculty in equity-related efforts, and, in turn, the need for professional development in the domain. According to EVT, individuals are likely to engage in a task (e.g., modifying existing assessments to mitigate injustice) if they have confidence/self-efficacy to complete the task, if they value the task, and if there are no or limited barriers/costs to engaging in the task.

The tasks in our context were both learning about and taking observable action to achieve inclusive excellence. Inclusive excellence requires that 1) individuals be introspective when reflecting upon their own biases and develop an understanding of diversity in its many forms (i.e., learning about) and 2) act to dismantle practices that devalue, marginalize, and disenfranchise others (i.e., observable action).

Understanding the faculty's values/priorities in combination with their current self-efficacy and barriers helped identify the needs of the faculty to support the goals of fairness, equity, and social justice in measurement and methodology. Regarding value, there are different types: intrinsic and extrinsic. In our context, an extrinsic value may be to meet the expectations of the Dean or Provost. Intrinsic values may be personal development or to have a positive impact on assessment practice. An individual may be high on both types of values, low on both, or some combination. If the program faculty (as a group) were low on value/priority of equity-related learning and action, the low value would need to be addressed prior to attempting to address low confidence or barriers related to equity-related learning and action.

If faculty were moderate to high on value for equity-related learning and action but low on confidence, this result would prompt the creation of learning resources to support their stated priorities and increase their confidence. Likewise, if priorities were moderate to high but barriers to engaging in equity-related learning and action were high, this finding would prompt discussions and actions to reduce these barriers.

In short, insight into the various mechanisms (e.g., values, confidence, barriers) that motivate or thwart equity-related work could inform the creation of intentional supports to encourage this work in our graduate program (i.e., inform the professional development content that would be built). Thus, we spent four months creating a theory-informed needs assessment. Fortunately, many of the items on the needs assessment could be re-administered after the professional development to evaluate if confidence, values, or perceptions of barriers changed (Finney et al., 2022).

Needs Assessment Data Collection

Prior to collecting data via the needs assessment, we facilitated a face-to-face meeting in September 2023, where all eight educational measurement faculty reflected on how to improve their understanding of equity in assessment and methods. The faculty had an opportunity to articulate areas of interest or need based on departmental and individual goals. We used the themes from that session to further inform the needs assessment.

The needs assessment items were organized into broad domains (see Table 1). Both confidence and value/priority were assessed for the following domains: the faculty (as a set) working to achieve inclusive excellence; understanding one's personal identity and its influence on actions; knowledge of basic concepts in equitable assessment and quantcrit and the authors of such work; ability to use equity and inclusion concepts in formal teaching environments; and ability to use equity and inclusion concepts to guide informal interactions with students (e.g., research meetings). An additional set of items assessed barriers to both learning about and engaging in equity-centered assessment and methodology.

The instructions for the needs assessment indicated that the items were developed to assess the needs of the program faculty to engage in observable actions toward inclusive excellence in our work as assessment specialists and those training the next generation of assessment and measurement specialists. The faculty were told that their responses to the items would directly inform the design of

the professional development meant to support their progress towards inclusive excellence. The instructions noted that the items refer to "equity in assessment". This term represents the full outcomes assessment process (e.g., creating measures, selecting a sample, choosing an analysis approach, interpreting findings). Faculty were told the needs assessment would take approximately 30 to 45 minutes to complete. All eight faculty members completed the needs assessment on their own in Fall 2023.

Needs Assessment Results

Results are housed in Table 1 under the columns labeled "Pre". Overall, faculty had moderate to high value for learning and developing skills related to equity in assessment but tended to have lower (slight to moderate) confidence in their current skills in the domain. These results provided evidence for the need for professional development to help faculty members address their perceived lack of skills in a domain they prioritized. If the professional development experience also increased faculty's perceived value of equity in assessment, it would be a welcomed finding. With that said, our main goal was to increase faculty's self-efficacy related to teaching and engaging in equity-centered assessment.

With respect to barriers to learning and engaging in equity-centered assessment (see Table 2), the faculty disagreed with the statement that these tasks were not relevant to their work. Thus, there was not a barrier associated with lack of relevancy. However, there were barriers to learning about equity-centered assessment associated with time and other competing tasks. With respect to engaging in equity-centered assessment, we also uncovered the barriers of task difficulty, not having the necessary skills, and feeling anxious about this work.

When completing the needs assessment, faculty were also asked how they wanted to engage in this professional development experience. Most of the faculty preferred an asynchronous learning experience. This preference dictated how the programming was created and facilitated, as described below. Moreover, all faculty members preferred to use already scheduled faculty meeting time to share what they learned after each unit. Thus, several of our bi-monthly faculty meetings were dedicated to "sharing out" what each faculty member learned and produced for each unit.

The Professional Development Course

As a result of the needs assessment findings, two faculty from the educational measurement PhD program and two instructional designers partnered to create the professional development course (Wilson et al., 2025). In general, most faculty's formal educational experiences include limited pedagogical training (Baker, 2024; Lowenthal et al., 2012), typically lacking formal learning experiences around equity and teaching. Thus, it is important to provide such experiences in a structured intentional way (Carpenter, 2024). Creating spaces of transformative learning for faculty has been a growing area in the field of faculty development (Nair et al., 2024). For this educational measurement graduate program, it was a clear and natural step to consult with instructional designers to develop a disciplinary-specific faculty development opportunity to attend to the growing needs around equity in assessment and methodology.

The focus of the professional development course was for faculty to engage in a meaningful and useful learning experience with the goal of producing actionable change in their teaching to foster

Table 1. Faculty Confidence and Priority Related to Equity and Inclusive Excellence (Npre = 8; Npost = 8)

	Confidence Mean (SD)		Priority Mean (SD)		Key Takeaways
	1 = not at all confident 2 = slightly confident 3 = somewhat confident 4 = mostly confident 5 = completely confident		1 = not at all a priority 2 = low priority 3 = medium priority 4 = high priority 5 = essential priority		
The program faculty…					
	Pre	Post	Pre	Post	
Overall Mean:	*3.8*	*3.8*	*3.7*	*3.7*	Prior to the professional development, faculty valued and believed that they, as a group of program faculty, could work together toward inclusive excellence, aligning with the values of the program, department, and college. **This finding supported creation of the professional development.**
Can achieve inclusive excellence.	3.6 (0.74)	3.4 (1.06)	3.8 (0.89)	3.5 (0.93)	
Can apply an equity lens to our assessment, measurement, and statistics course content.	3.8 (1.04)	3.8 (0.89)	3.8 (0.71)	3.8 (0.71)	
Can engage in faculty discussions related to equity in assessment.	3.9 (1.13)	4.4 (1.06)	3.6 (0.52)	3.8 (1.04)	After completing the professional development, faculty had similar levels of value and confidence related to their collective work to enhance equity in assessment and quantitative methods.
Regarding my personal identity,					
	Pre	Post	Pre	Post	
Overall Mean:	*3.0*	*3.8*	*3.5*	*3.6*	Prior to the professional development, on average, faculty had moderate confidence regarding their ability to consider how their personal identity impacts their actions. On average, faculty had medium to high priority for engaging in this personal identity work. **These findings indicated an area to focus instruction during the professional development.**
I can articulate my personal privilege.	3.8 (0.46)	4.3 (0.71)	3.6 (1.06)	3.8 (1.04)	
I can articulate my identity.	4.1 (0.64)	4.1 (0.64)	3.6 (0.74)	3.8 (1.04)	
I understand how race influences my teaching.	2.4 (0.92)	3.5 (0.53)	3.6 (1.19)	3.4 (0.74)	After completing the professional development, faculty were more confident in their ability to articulate their personal privilege and reflect on their biases and stereotypes. They were more confident in understanding how race impacts their teaching, research, and assessment practice. They increased their confidence to identify nuances of different epistemological approaches and how this influences their work. There
I understand how race influences my scholarship.	2.3 (0.89)	3.4 (0.74)	3.5 (1.07)	3.4 (0.74)	
I understand how race influences my assessment practice.	2.3 (0.89)	3.5 (0.53)	3.4 (1.06)	3.3 (0.71)	
I understand different epistemologies.	2.9 (1.55)	3.4 (0.92)	3.4 (0.92)	3.6 (1.19)	

	Pre	Post	Pre	Post	
I know how the epistemology that I adhere to controls my work.	2.8 (1.16)	4.0 (1.07)	3.4 (0.92)	3.8 (1.28)	was little change in priority, with the largest being an increase in understanding how epistemology impacts their work.
I reflect on my own biases and stereotypes.	3.5 (0.93)	4.3 (0.46)	3.9 (0.83)	4.1 (1.13)	

Regarding my knowledge and intentions related to equity in assessment and critical methodology,

	Pre	Post	Pre	Post	
Overall Mean:	*3.0*	*3.7*	*3.5*	*3.6*	Prior to the professional development, on average, the faculty were only slightly or somewhat confident in their knowledge and intentions related to equity in assessment and quantcrit methods. On average, faculty had medium to high priority for increasing knowledge and intentions related to quantcrit and equity in assessment. **These findings indicated an area to focus instruction during the professional development.**
I can identify leaders in the field regarding equity in assessment.	3.5 (1.20)	4.3 (0.71)	3.6 (1.06)	3.5 (1.20)	
I can articulate the current suggestions by leaders in the field regarding equity in assessment.	3.1 (0.99)	3.9 (0.64)	3.8 (1.04)	3.6 (1.19)	
I can explain critical race theory.	3.3 (0.71)	3.5 (1.20)	3.4 (1.06)	3.1 (0.99)	After completing the professional development, faculty were more confident in their ability to identify leaders in the field and current suggestions by leaders regarding equity in assessment. They also increased their confidence to distinguish between quantitative methods and assessment processes that center equity and those that do not. The largest increases in confidence were related to explaining how data is socially constructed and how racism influences data collection and analyses. There was little change in priority, with the largest being an increase in being able to explain how data is socially constructed.
I can explain the difference between various critical methods.	2.6 (0.92)	3.3 (1.16)	3.4 (1.30)	3.5 (0.93)	
I can recognize when a quantcrit lens is applied in a research project.	3.1 (0.83)	3.5 (1.07)	3.4 (1.19)	3.4 (1.19)	
I can recognize characteristics of anti-racist assessment.	3.1 (0.99)	3.6 (0.92)	3.3 (1.28)	3.6 (1.06)	
I can explicitly verbalize how racism potentially influences every aspect of quantitative data collection and analysis.	2.4 (0.74)	3.5 (0.93)	3.6 (1.06)	3.6 (1.19)	
I can explain how all data is socially constructed.	2.6 (1.19)	4.1 (0.83)	3.5 (1.20)	4.0 (1.41)	

Regarding my intentions related to equity and inclusion concepts informing my teaching,

	Pre	Post	Pre	Post	
Overall Mean:	*2.1*	*3.1*	*3.4*	*3.1*	Prior to the professional development, on average, the faculty had little confidence regarding equity and inclusion concepts informing their teaching. On average, the faculty had medium to high priority in this area. **These findings indicated an area to focus instruction during the professional development.**
I can identify teaching strategies that have evidence of effectiveness related to equity and inclusion.	2.0 (1.07)	3.6 (0.92)	4.1 (1.25)	3.8 (1.16)	

I can talk with students about quantcrit in a formal learning environment.	2.0 (0.53)	3.1 (0.64)	3.5 (1.07)	3.3 (1.16)
I can facilitate discussions around equity in assessment in a formal learning environment.	2.4 (0.74)	3.3 (1.04)	3.6 (1.06)	3.4 (1.06)
I understand the term decolonize.	2.3 (1.04)	3.4 (0.74)	3.1 (1.13)	2.5 (1.31)
I know how to engage in decolonizing teaching methods.	1.6 (1.06)	2.8 (0.89)	3.0 (1.20)	2.8 (1.04)
I can maintain civil discourse inside the classroom when discussing topics related to equity.	2.0 (0.93)	3.6 (1.51)	4.1 (1.13)	3.9 (1.25)
I can advise a student who wants to engage in quantcrit approach to research.	2.3 (1.28)	2.6 (1.06)	2.9 (1.13)	2.5 (1.07)
I can advise a student who wants to engage in anti-racist assessment.	2.4 (1.06)	2.6 (1.06)	3.1 (0.99)	2.5 (1.07)

Upon completion of the professional development, the faculty had large gains in confidence in their ability to identify effective teaching strategies related to equity and inclusion and how to engage students in discussions around equity in assessment. Moreover, there was an increase in confidence related to decolonizing teaching methods. There were minimal increases in confidence to advise a student to apply a quantcrit or anti-racist approach to their research or assessment practice. With respect to priority, there was a decrease in all aspects related to teaching.

Regarding my intentions related to equity & inclusion concepts informing my interaction with students beyond the classroom (e.g., advising, roundtable, research team meetings, GA-related meetings),

	Pre	Post	Pre	Post
Overall Mean:	*2.6*	*3.8*	*3.7*	*3.5*
I am able to speak to students about equity in assessment.	2.6 (0.92)	3.9 (0.99)	4.0 (1.07)	3.4 (1.06)
I am able to speak to students about equity and inclusion in general.	2.6 (1.06)	3.9 (0.99)	3.8 (1.28)	3.4 (1.19)
I can identify the resources on campus related to equity and inclusion.	3.1 (1.25)	3.9 (0.83)	3.5 (1.20)	3.3 (1.28)
I understand microaggressions.	2.5 (1.20)	3.9 (0.99)	3.4 (1.41)	3.6 (1.06)
I know how to avoid microaggressions.	2.1 (1.25)	3.3 (0.89)	3.6 (1.60)	3.6 (1.06)

Prior to the professional development, on average, faculty were only slightly confident regarding interactions with students that focused on equity. On average, faculty had medium to high priority in this area. **These findings indicated an area to focus instruction during the professional development.**

Upon completion of the professional development, faculty were more confident in their ability to speak with students about equity in general and in assessment. They were more confident they could avoid microaggressions and that they could find on-campus resources to support equity and inclusion. There was little change in priority, with the largest decrease in speaking with students about equity in general and in assessment.

inclusive excellence. Two key features of the development opportunity required faculty to do the following: 1) articulate (with guidance) clear goals for improving inclusive excellence in their teaching; 2) engage in peer-to-peer learning with colleagues to support a culture of trust and accountability that would allow for improvement in the skills around teaching topics of equity in assessment and methodology.

Table 2. Average (SD) Faculty Perceptions of Barriers Related to Learning and Engaging in Equity-Related Work (N = 8)

Barrier Item	**Barriers to Learning** 1 = strongly disagree 2 = disagree 3 = disagree somewhat 4 = somewhat agree 5 = agree 6 = strongly agree	**Barriers to Engaging** 1 = strongly disagree 2 = disagree 3 = disagree somewhat 4 = somewhat agree 5 = agree 6 = strongly agree
This task demands too much of my time.	4.0 (1.69)	4.0 (1.77)
This task is too difficult.	3.8 (1.75)	4.0 (1.85)
This task requires me to give up too many activities I personally value.	3.4 (1.51)	3.8 (1.75)
I have so many other responsibilities that I am unable to put in the effort that is necessary for this task.	4.5 (0.93)	4.4 (1.41)
This task is mentally exhausting.	3.6 (1.77)	3.9 (1.73)
I feel too anxious about this task.	3.3 (1.67)	3.9 (1.73)
This task is emotionally draining.	3.5 (2.00)	3.5 (1.51)
This task isn't relevant to my work.	1.8 (0.71)	2.3 (1.04)
I don't have the necessary practical skills (e.g., classroom management, handling sensitive conversations, encouraging civil discourse).	NA	3.9 (1.89)

It was critical in the early stages of the professional development to gain buy-in and build trust with the faculty. Thus, we engaged in a "kick off session" to have explicit conversations with program faculty and department leaders about the amount of time faculty would need to commit and how this professional development could be supported through annual goal setting, faculty evaluations, and program-level planning. That is, because the faculty would be immersed in a curriculum designed to foster personal growth, course-level adjustments, and program-level changes, each faculty member was encouraged to include the completion of this course in their individual faculty goals for the year. It was important to overtly articulate the labor and process of creating and implementing this course, as it directly influenced the buy-in and relationship building needed to make this initiative a successful learning opportunity. In the section that follows, we share the details of the course structure and outcomes, design elements, and overall timeline for course design and development. This section may

be of particular use to institutional or graduate program leaders, faculty developers, or instructional designers.

Design Elements and Timeline of the Professional Development Course

The professional development course structure is evidence of its comprehensive approach, spanning a full year with 8 synchronous sessions and approximately 10 to 15 hours of faculty work between each session. The following outcomes for faculty guided the design of the course:

- Articulate clear individual goals to be included in a faculty action plan that contributes to the departmental commitment of fostering inclusive excellence.
- Articulate their own positionality for the purpose of increasing self-awareness and confidence as they approach issues of equity and assessment in their teaching practice.
- Engage in peer-to-peer learning with colleagues to support a culture of trust and accountability.
- Increase confidence around teaching topics of equity in the field of Assessment and Measurement.
- Integrate content around equity into the curriculum.

The course included three units (see Appendix). The first unit, "Identity and Systems", was built to encourage faculty to explore their own identities and understand their roles within institutional structures. The second unit, "Equity and Assessment", was built to challenge faculty to confront and understand the historical biases within the field, urging them to understand critical theories and culturally-responsive approaches. The third unit, "Teaching Practices", was created to equip faculty with strategies to incorporate diverse voices into the curriculum and reassess their pedagogical methods. The hope was that by completing these units, the faculty would be empowered to enact meaningful changes in their teaching and the graduate program.

When making design decisions about the course, we were guided by the faculty's request that the bulk of the coursework be asynchronous and that synchronous discussion occur in already scheduled faculty meetings. Thus, we determined that the course content and activities would be implemented using our institutional learning management system (i.e., Canvas). As part of the design approach, each faculty member completed a private reflection guide called an "Evolve Guide". This document was not shared with facilitators and was intended as a space for faculty to keep notes on their learning, respond to specific prompts and activities, and draft initial goals. Finally, we used Qualtrics to collect data for the needs, formative, and summative assessments.

Faculty subject matter experts and instructional designers engaged in a highly collaborative process to identify, design, and test all material and activities for the course. Table 3 provides the timeline of the process, including who was involved in the work each semester and the key deliverables.

It is important to note that there were valuable lessons learned that extend beyond this particular professional development course. For example, engaging in the process of explicitly shaping an MOU among institutional partners that centers care, equity, and clear expectations was valuable to all participants and has since been re-used in other settings. Moreover, evaluation and improvement of the professional development course should be a clear and communicated goal. Thus, we gathered feedback about the design of the course and its impact on faculty learning, which can support the design of future professional development courses. That feedback is included in the results and discussion sections.

Table 3. Timeline and Process of Creating the Professional Development Course

	Spring 2022 - Summer 2022	Fall 2022	Spring 2023 - Summer 2023	Fall 2023	Spring 2024	Fall 2024 – Spring 2025
Who was involved	• Program partners • IDs	• Program partners • IDs • Program faculty	• Program partners • IDs • Program faculty	• Program partners • IDs • Program faculty	• Program partners • IDs • Program faculty	• Program partners • IDs
Purpose	• Initial consult • Develop goals for our work • Learning to work together	• Design and implement synchronous "kick off" session for program faculty • Develop needs assessment • Evaluate the need for the program	• Develop blueprint of the course • Develop course outcomes, • Develop content for Unit 1	• Implement synchronous session with faculty • Implement Unit 1 • Unit 2 opened in December • Continue development of content for Unit 2 and 3	• Finalize and Implement Unit 3 • Prepare for evaluation of program	• Evaluation, writing, and production of open materials • Facilitated final wrap up session to gather faculty feedback
Deliverables	• Planning Needs Assessment	• Implement Needs Assessment • Share openly licensed Needs Assessment • Analyze data and share report with faculty to begin designing course	• Create facilitator guides • Receive feedback from program faculty • Create Unit 1 content • Prep for synchronous session with faculty	• Create facilitator guides • Create Unit 2 content • Facilitate synchronous sessions	• Facilitator guides • Create Unit 3 content • Facilitate synchronous sessions	• Evaluation report (for internal use) • Proposal and publication (external) • Create openly license program materials

Note. ID = instructional designer. Program partners = two educational measurement faculty who served as content experts.

Pressbook and Professional Development Course Materials

As part of our commitment to making this professional development available to other educational measurement programs, we have created an openly licensed Pressbook that includes a snapshot of the course as it was provided to faculty (Wilson et al., 2025). Readers are encouraged to review the content and consider how the structure of the course may be supportive to the development of faculty or other learners in their own context (e.g., psychometricians at testing companies).

Materials can be accessed through OER Commons, including the needs assessment instrument, a snapshot of course content, and information about how to use materials (Finney et al., 2022). Readers will see our transformative learning approach to faculty development required "the interconnectedness of reflective practices, structured teaching, and the intentional application of evidence-based approaches." (Nair et al., 2024, p.7). The creation of professional development courses grounded in a transformational learning approach takes time and labor. Thus, our intention of sharing our work is to lighten the burden for other educational measurement faculty, program developers, or interested parties when implementing such meaningful professional development experiences.

Summative Assessment Results

Items from the needs assessment were completed by all faculty members upon completion of the professional development. Results are in Table 1 under the "Post" column.

Increase in Faculty Member's Confidence

The data revealed improvements in faculty confidence in numerous domains after completing the year-long course. First, faculty reported increased confidence to articulate personal privilege and reflect on personal biases, which is crucial for creating inclusive spaces where diverse perspectives are valued. Second, faculty enhanced their confidence to identify the nuances of different epistemological approaches and how their chosen epistemology impacts their work. This newfound confidence enables them to critically evaluate research methods and consider diverse ways of knowing. Third, faculty felt better equipped to identify leaders in the field and current suggestions by these leaders. Fourth, faculty increased their self-efficacy to distinguish between methods and assessment processes that are critical and center equity versus those that do not. Fifth, faculty increased their confidence to explain how data is socially constructed and how racism influences data collection and analyses. Sixth, faculty gained confidence in their ability to identify effective teaching strategies related to equity and inclusion and how to engage students in discussions around equity in assessment. Finally, outside of the classroom, faculty increased their confidence to engage in conversations with students about equity in general and equity in assessment. In addition, faculty increased their confidence to avoid microaggressions, which is always important but especially when engaging in sensitive equity-related conversations.

Little Change in Faculty Member's Priorities

Although confidence levels improved as we hoped, priorities shifted only slightly from before to after the professional development (see Table 1). Faculty noted an increased value of engaging in discussions related to equity, which facilitates future commitment to active dialogue and collective learning. Moreover, they noted increased value in understanding different epistemologies and how they influence their work. It is important to note that faculty priorities related to equity and inclusion concepts informing their teaching decreased.

Faculty Member's Self-Reported Capabilities

In addition to re-administering the needs assessment, we gathered faculty member's self-reported capabilities and improvements after taking the course. Specifically, we asked each faculty member to self-report whether they were capable of achieving each unit-level outcome followed by their self-analysis of improvement from pre-course to post-course (see Table 4).

For Unit 1, all faculty felt capable of engaging in vulnerable conversations, situating their identities within the institutional system, and respecting how student identity impacts learning spaces. However, only 37.5% of the faculty felt they could imagine teaching in a racially liberated education setting or could articulate the contextual challenges to actualizing such a setting, despite moderate improvement from pre-course to post-course. This finding suggests that although learning occurred, these concepts prove challenging for faculty to fully grasp and apply.

For Unit 2, 100% of the faculty reported they could identify the role of intersectionality in our discipline, describe how the "White Racial Frame" (Russell, 2023) shapes the field, apply an equity or culturally responsive approach, and develop program-level intentions. Additionally, 87.5% felt both capable of engaging in interdisciplinary scholarly conversations to foster inclusive excellence and capable of comparing historically structured practices in the field with critical or culturally responsive approaches. The improvements from pre-course to post-course varied, with most outcomes showing "moderate" to "a lot" of gains, with the greatest improvement observed in understanding the "White Racial Frame."

For Unit 3, 100% of the faculty reported they could critically reflect on their learning experiences and evaluate their assessment approaches. Additionally, 87.5% felt capable of evaluating the curriculum to identify centered voices and curating a list of activists, educators, scholars, and institutions to incorporate into the curriculum. Moreover, 75% felt they could select specific pedagogical and learning assessment strategies to foster inclusive excellence. On most outcomes, faculty reported "moderate" to "a lot" of improvement, with the highest improvement observed in the ability to evaluate the curriculum to identify what voices are centered.

Module-Specific Assessment Results

To better understand the summative assessment results, we examined module-specific results gathered for Units 1 and 2. Specifically, data were collected after each module to understand faculty's confidence for each unit-specific learning outcome. Figures 1 and 2 display the change in confidence levels throughout Units 1 and 2. Unit 3 consisted of two modules, with data collected only after module 7, as the course post-test data for all units was collected after module 8. Thus, there is no figure for Unit 3, but the Appendix provides a narrative of faculty's growth in confidence across all modules within the three units.

In sum, faculty's confidence grew across several outcomes. There were initial dips in confidence, likely due to the challenging nature of concepts. However, as faculty progressed throughout the modules, confidence levels generally stabilized or increased. By the end of each unit, faculty reported high confidence in recognizing their own identities, understanding their roles within the institutional system, and applying inclusive and culturally responsive approaches. Although some concepts, such as teaching in a racially liberated education setting, remained challenging, overall confidence in engaging in interdisciplinary scholarly conversations to foster inclusive excellence and developing an inclusive

Table 4. Faculty Self-Identified Capability of Achievement and Ability Improvement for Each Unit-Level Outcome (N = 8)

| Outcome	Self-Reported Capability of Achieving Outcome	Self-Reported Ability Improvement Reported after Course
Unit 1: Identity & Systems		
Recognize my position and identity in order to engage in vulnerable conversations that will build solidarity within the Ph.D. program.	100%	3.63 (1.06)
Discover how my personal identity and professional work are situated within a broader institutional system.	100%	3.63 (0.92)
Respect how student identity impacts learning spaces.	100%	3.75 (1.16)
Imagine teaching in a racially liberated education setting.	37.5%	3.00 (0.93)
Articulate the contextual challenges to actualizing the liberated educational setting.	37.5%	2.75 (0.71)
Unit 2: Equity and Assessment		
Identify the role of intersectionality in their own discipline.	100%	3.75 (1.16)
Describe how the "White Racial Frame" shapes educational and psychological assessment, measurement, and quantitative methods.	100%	4.13 (0.99)
Compare the "White Racial Frame" that has historically structured practices in our field with critical theories and culturally responsive approaches.	87.5%	4.00 (0.93)
Describe how to apply an equity or culturally responsive approach toward measurement, assessment, and quantitative methods.	100%	3.50 (1.20)
Develop program-level intentions with colleagues to create a more inclusive curriculum.	100%	3.75 (1.04)
Engage with colleagues in interdisciplinary scholarly conversations to foster inclusive excellence.	87.5%	3.63 (1.06)
Unit 3: Teaching Practices		
Curate a list of activists, educators, scholars, and institutions to incorporate in the PhD program's curriculum in collaboration with colleagues.	87.5%	3.63 (1.19)
Evaluate the curriculum in a selected course to identify what voices are centered.	87.5%	3.75 (1.04)
Critically reflect on my learning experiences and how that has shaped my teaching.	100%	3.63 (1.19)
Select specific pedagogical strategies to apply within my teaching practice in order to foster inclusive excellence.	75%	3.13 (1.25)
Critically evaluate my current approach to assessment in my courses.	100%	3.38 (1.19)
Select specific learning assessment strategies to apply within my teaching practice in order to foster inclusive excellence.	75%	3.50 (1.07)

Note. Capability scale was simply selecting "yes" or "no" with percentages above indicating the percentage of faculty stating "yes". Self-Improvement scale: 1 = no improvement at all, 2 = a little, 3 = a moderate amount, 4 = a lot, 5 = a great deal

Figure 1. Unit 1 content coverage and confidence growth. Each module addressed each outcome to varying degrees; thus, we illustrated the amount of content coverage using different line patterns and colors. No unit-specific pre-test data were collected.
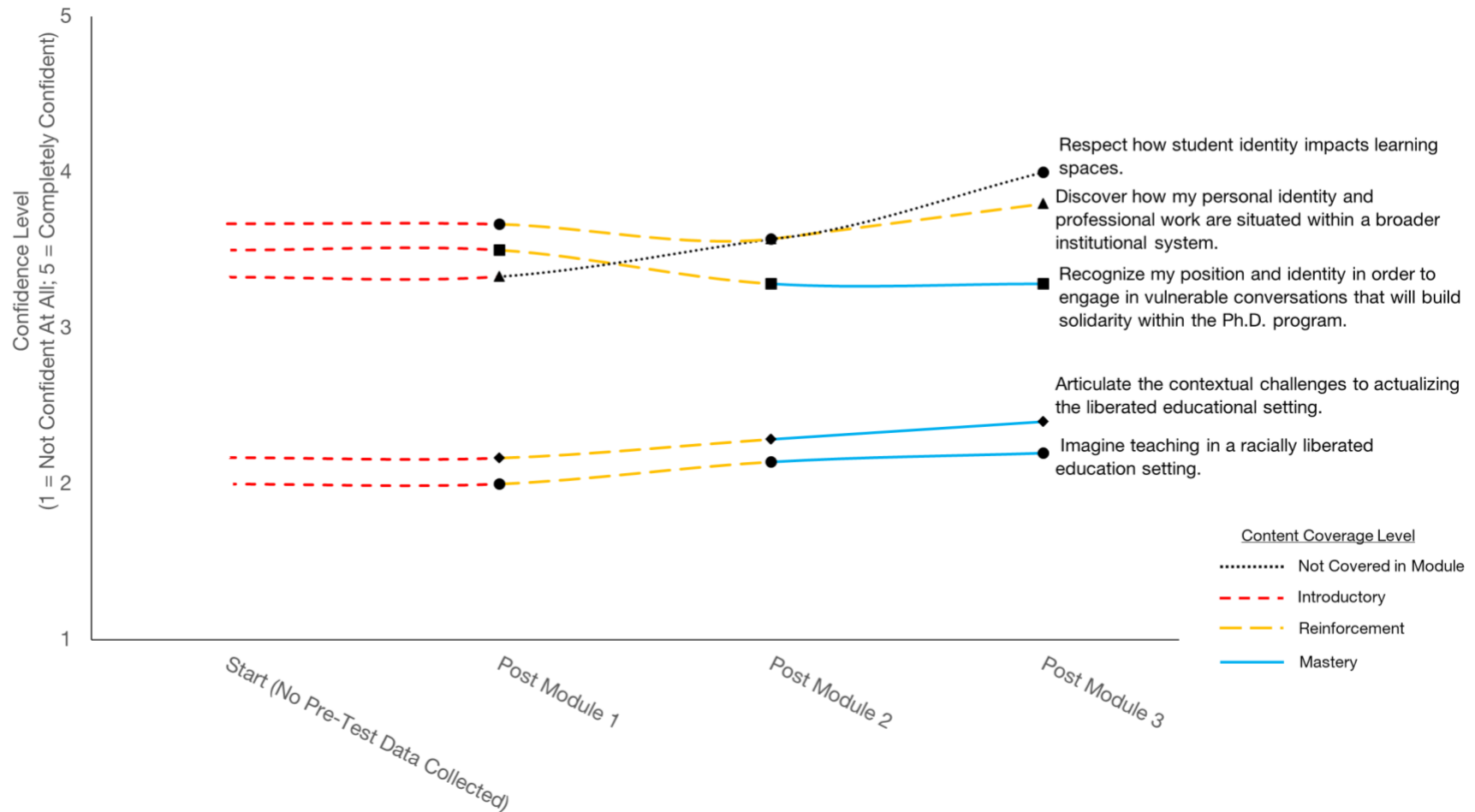
Figure 2. Unit 2 content coverage and confidence growth. Each module addressed each outcome to varying degrees; thus, we illustrated the amount of content coverage using different line patterns and colors. No unit-specific pre-test data were collected.
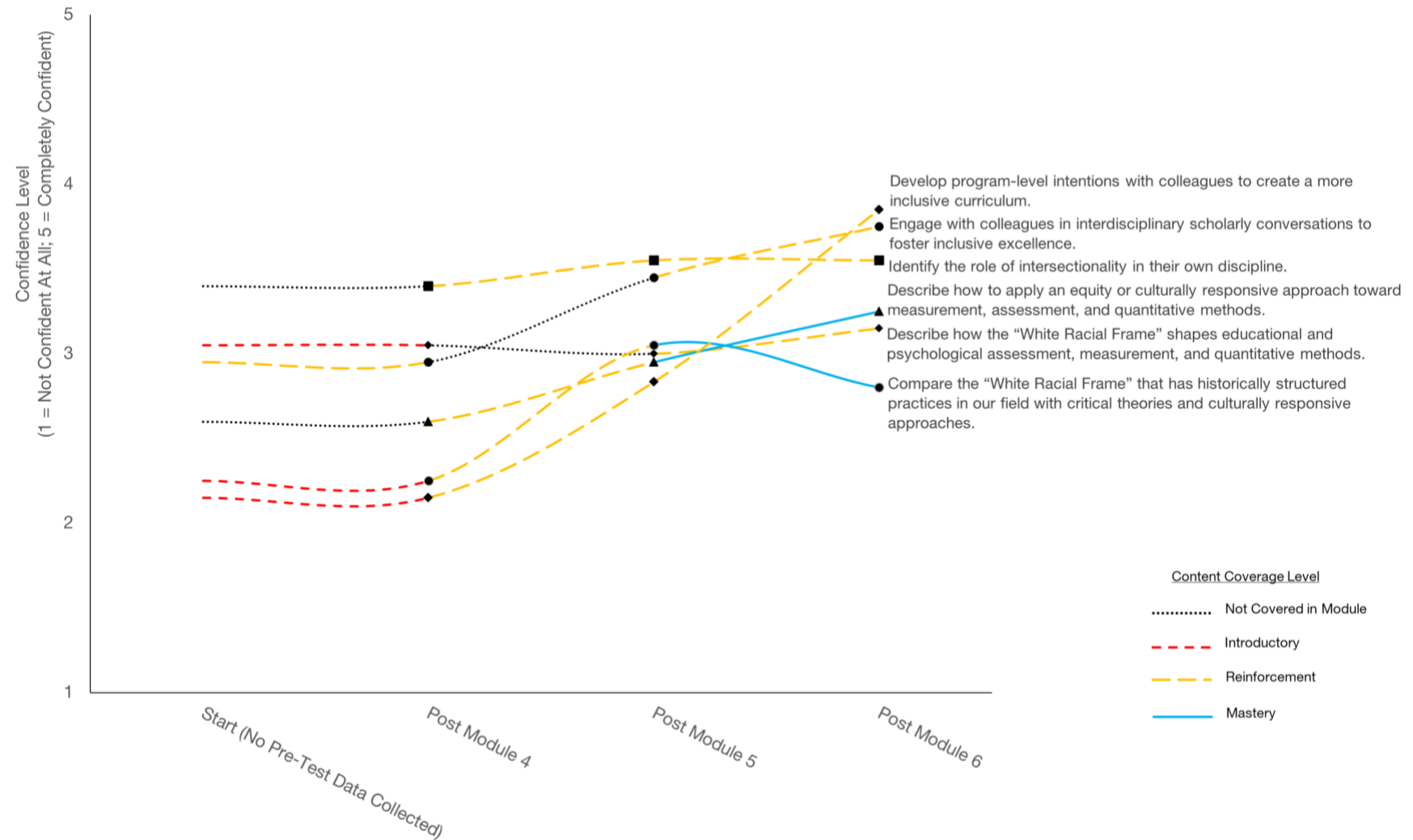
curriculum showed notable improvements. Our purpose in showing module-level assessment results is to emphasize the "ups and downs" of confidence when learning this material, which was new to many faculty. We heard the peaks and valleys of their confidence during our monthly face-to-face meetings where we shared out our learning, so we were not surprised to see the form of these graphs.

Observable Action Toward Inclusive Excellence

Recall, inclusive excellence requires that individuals 1) be introspective when reflecting on their own biases and develop an understanding of diversity in its many forms (i.e., learning) and 2) act to dismantle practices that devalue, marginalize, and disenfranchise others (i.e., observable action). The findings above focused on faculty's growth related to learning. To provide insight into observable action, we asked faculty how they used what they had learned to engage in action. That is, even though their self-reported priority to infuse equity and inclusion concepts into their teaching decreased, we may find that faculty engaged in these actions. We grouped these actions into the following: program-related changes, course-specific changes, graduate assistantship changes, and advising changes.

Program-Related Changes

Changing the formal program requirements (e.g., number of required credits) takes time and must go through formal curriculum approval processes, which includes accreditors. With that said, the faculty, as a group, made three changes to the program directly following the professional development.

First, the program added a new elective course, Philosophical Foundations of Social Inquiry to the curriculum. This course introduces students to different philosophical worldviews and addresses how these worldviews inform methodological and interpretive decisions enacted by researchers and assessment practitioners. Within this course, students are also introduced to objectivism, interpretivism, and subjectivism as epistemological perspectives that inform theoretical frameworks such as post-positivism, social constructionism, critical theory, and postmodernism. Although an elective and added without much notice to students, over half of our students enrolled in the first offering of the course.

Second, for our twice-a-month roundtable sessions that involve both faculty and students discussing measurement and methods concepts, we will be instituting multiple sessions on equity in assessment, assessment for social justice, and fairness in assessment. Although not credit-bearing, these sessions are required for students and historically students have engaged with the readings and come prepared to share their thoughts with peers and faculty. In turn, this learning context offers a "low-stakes" opportunity for students to practice thinking through equity concerns related to their domain of study and to develop plans to address these concerns. These roundtables also offer a mechanism for both faculty and students to identify others in the program who have similar interests, which can lead to collaborative equity-centered projects.

Third, our program offers a multi-day statistics preparatory workshop designed to review foundational statistics concepts, focusing on pre-requisite knowledge for our graduate program. The current format involves three full-day synchronous virtual sessions during the summer, which prompted several equity concerns. These concerns included scheduling the preparatory workshop before the academic term begins, a period when students may have commitments or other on-boarding obligations that disproportionately affect certain groups of students (e.g., international students). Additionally, the format proves to be particularly challenging for students with limited access to technology, students with disabilities, international students, non-native English speakers, and students

who face engagement issues due to home distractions (e.g., lack of a quiet space). Thus, we are developing an accessible version of the preparatory course to be offered as an Open Educational Resource (OER). This version will be available in a self-paced, continuously accessible model, providing learning opportunities in a variety of formats (e.g., accessible videos, readings, engaging activities). Additionally, the course will be broken into modules that do not need to be completed in one sitting, allowing for greater flexibility and accessibility. This modular format is ideal for exploring concepts at depth and interrogating foundational statistics. For example, critiquing the mean, which inherently conceals what goes on in the extremes, will help students begin developing critical quantitative literacy skills (Frisby, 2024). Moreover, we can use the transition of the workshop's format as a "lived" example of equity and inclusion when first introducing these concepts to students.

Course-Specific Changes

Faculty have the most control over the specific courses they teach; thus, it appeared easier for them to take action via their course curriculum, assessments, and pedagogy. Our program currently offers 15 core courses, rotating over 2 years. Over half of these courses (8) were or will be changed to better address equity given what faculty learned in the year-long professional development.

Curricular changes. Our required introduction to measurement theory course has 1) replaced some didactic examples with new examples that apply an equity lens and 2) added new topics on the history of tests, measurement bias and fairness, measurement invariance, and legal issues. Our required advanced measurement theory course has added 1) more critical discussion of bias review committees in light of Randall's comments (2023) on how following the committees' guidelines can strip all context from items, 2) a reading and discussion of deficit language, and 3) a discussion of whether lack of differential prediction is fair. Our required IRT course has added 1) coverage of the concept of intersectionality as it relates to DIF analyses and 2) a discussion of the idea of not removing items that favor disadvantaged groups but instead trying to balance items so that different items favor different groups (i.e., adding culturally-relevant items instead of culturally-neutral items).

Assessment changes. Changes to course assessments were also made. More specifically, a new graded project was added to our structural equation modeling (SEM) course asking students to identify and review an article that used an SEM approach to uncover an equity or social justice issue. Students must clearly explain how this article exemplifies "SEM for Good" rather than harm.

Our required performance assessment course adopted the following learning outcome: "Discuss the capacity of performance assessments to inform issues of equity and inclusion in education." As part of students' learning experience to achieve this outcome, students are asked to write a book review that is of publication quality for one of four books listed below:

- Blum, S. (2020). *Ungrading: Why rating students undermines learning (and what to do instead)*. West Virginia University Press.
- McNair, T., Bensimon, E., & Malcom-Piqueux, L. (2020). *From equity talk to equity walk: Expanding practitioner knowledge for racial justice in higher education*. Jossey-Bass.
- hooks, b. (1994). *Teaching to transgress*. Routledge.
- Freire, P. (1970). *Pedagogy of the oppressed*. Bloomsbury.

The quality of the student's review and presentation to the class is used to assess their ability to discuss equity considerations when engaging in performance assessment.

Pedagogy changes. Changes in pedagogy, including course format, were also adopted. Our required assessment consultation course now employs the Transparency in Learning and Teaching (TILT) pedagogical method, which means for each class session there is a purpose statement, task description, and criteria. Our required statistical consulting course was adapted to embrace open pedagogy. Students engage in a semester-long project, creating ADEPT (i.e., analogy, diagram, example, plain language definition, and technical definition; Azad, 2013; Vance & Smith 2019) explanations for various topics, which form the foundation of an Open resource repository. Importantly, this project aligns with principles of social justice, emphasizing redistributive, recognitive, and representational justice. Discussions throughout the course emphasize types of licensing for Open work (e.g., CC, BY) as well as students' rights and responsibilities (Hattwig et al., 2022) when putting their work in the Open. Additionally, the instructor now only uses freely available resources or OERs.

Advising- and Mentorship-Related Changes

Five of our eight faculty infused an equity focus into scholarly reading and/or research projects conducted with their advisees. One faculty member completed a four-month reading program on justice-oriented assessment and intersectional approaches to quantitative psychology with their first-year MA advisee. Another faculty member co-produced two research projects with two PhD graduate students on the effect of test-optional policies on enrollment rates for underrepresented students and methodological solutions to addressing intersectional DIF. A third faculty member conducted and presented a study with an MA student that strived to include student voices in the construction and evaluation of student learning outcomes. A fourth faculty member worked with a PhD student on a complex multi-level model to evaluate the effect of STEM students' exposure to professors of color on retention and graduation rates. Finally, a fifth faculty member worked with three graduate students to create, evaluate, and publish a meta-assessment rubric to advanced equity in higher education programs and outcomes assessment (Finney et al., 2024; Wild et al., 2024).

The breadth of these empirical projects and the inclusion of first-year MA students to advanced PhD students demonstrates our faculty's action to center equity in the experiences of our advisees. Importantly, these experiences extended to students outside of our program who we advised during internships. Specifically, we offer a summer internship for undergraduate students, with an emphasis on equity. We provide opportunities for Black, Brown, and Indigenous students, offer accessible modalities (e.g., remote, in-person), and extend a modest stipend to support students who rely on summer income to support their education. Throughout the experience, interns are introduced to the history of the field, the integration of equity at each step of the assessment process, and approaches such as culturally responsive assessment. This experience enables interns to learn where they can make meaningful contributions in the field. Moreover, given the shortage of professionals in measurement, we hope the experience helps to recruit and retain a more diverse next generation of measurement specialists (e.g., Finney & Pastor, 2012; Randall & Rios, 2023)

Graduate Assistantship Changes

All our full-time graduate students have a graduate assistantship (GA) that pays for their tuition and offers a stipend in exchange for 20 hours of work per week. The GA-related work centers on teaching or consulting on topics related to assessment and quantitative methods. Several students expressed a strong interest in gaining exposure to and practicing equity-related considerations, identifying these skills as essential for their professional development. In response to this demand, faculty were now well-prepared to accommodate these requests and adopted three changes to support students seeking such experiences. First, the teaching assistant for our first-year statistics sequence

chose to evaluate the lecture materials using the "Tool for identifying bias in sources" (Germán et al., 2021). Second, some GAs offering assessment consultation to faculty and staff chose to use an equity-centered rubric to frame and guide clients through assessment practice. Third, some GAs chose to educate the institution's student affairs division on how to use outcomes assessment to promote social justice and pursued an opportunity to offer similar training sessions at national conferences.

Final Faculty Reflections on the Professional Development Experience

All faculty were provided with the text above and asked to review our interpretations for accuracy and provide final thoughts on the year-long learning experience. Specifically, they were provided a list of questions to respond to after reading the text above, given four weeks to form their responses, and were asked to share those responses in a synchronous debrief session. The following summary represents their reflections from that session.

When asked about the decrease in priorities related to equity and inclusion concepts informing their teaching, faculty indicated this change was due to competing priorities and comfort with the topic, despite the increase in confidence with the content. One faculty member stated: "Priority may have decreased slightly due to competing demands." Another provided specifics regarding the competing topics: "If I'm honest, the priority in this space has decreased for me. The primary reason is because of the urgency of learning and integrating AI into my teaching and work. [...] Given the AI urgency, I'd rather integrate equity in the AI context rather than in and of itself." Another faculty member indicated that priority of this work is tied to their perception of relevancy in their courses and how equity content can be integrated into existing curriculum: "Also partly acknowledging our limitations as a program; already pressed for time to cover foundational material; to cover additional equity and inclusion topics, something needs to go". Finally, comfort with topics influenced a faculty member's priority to center equity: "There is flexibility in what we choose to research, so I tend to stick to the topics with which I feel more comfortable and knowledgeable (which are ones that are not controversial)."

Faculty were asked a number of questions related to the overall utility of this learning experience. Their responses indicated that completing the course provided an opportunity for them to explore some way of making changes to their teaching, advising, or scholarship. Moreover, most of the faculty found that engaging in the learning experience created more shared understanding of the direction the graduate program was moving in terms of equity-related practices and content: "We now have a shared baseline of ability to discuss and engage in this work. I feel like these perspectives are now 'baked in' to my thinking and will show up outside of formal inclusion on a syllabus (e.g., in considering applications, in class discussions)." Faculty responses also indicated that most felt more able and willing to participate in conversations on this topic, which aligns with findings regarding increased confidence.

Finally, faculty were asked about their future plans based on their learning from the course. Each faculty response is representative of their own journey, but most faculty noted that the learning from the course provided some level of changed outlook when making decisions about their teaching, research, and assessment-related work. We perceived these faculty responses on a spectrum from small to large shifts in mindset, as shown in these examples.

- "No functional plans per se. Rather, this is sitting in the back of my head at all times. I now approach things with more knowledge, hesitance, understanding, and/or confidence."

- "I hope to continually ask myself when engaging in assessment practice 'what are the equity considerations I should be thinking about'. [...] I hope to continually ask myself when engaging in teaching 'how can I use this course to advance social justice related to assessment'."
- "I believe it fundamentally changed my way of thinking/going about research so it will impact me moving forward. From a practical standpoint, I believe it will change how I approach research/teach. To me, it feels easier to embed in course material without making explicit - just making it part of the everyday content, which will seem seamless to students/me as a teacher."

Overall, faculty reflections support the findings from the formative and summative assessment that the year-long professional development was valuable and for some transformative.

Discussion

There are no shortcuts if a graduate measurement program is going to meet its expectations to address equity and inclusion issues in the field. Addressing and advancing equity and inclusion is a continuous effort that becomes more feasible when program faculty have an intentional strategy for growth in this domain. Thus, we intentionally created a learning environment for faculty to make changes in three critical areas. First, we engaged in self-work to identify our power, privilege, and positionality, allowing for deeper understanding of others' experiences and a check of our biases and assumptions. This self-work was long, difficult, and necessary. Moreover, this self-work is never completed. Self-examination should be consistent and intentional, as our responsibility as educators requires us to consistently pursue information that helps us understand equity and inclusion issues. Second, we provided resources, tools, and examples that would encourage course-specific changes to content, pedagogy, and assessments. There was no expectation to overhaul full courses but rather to begin the process of better incorporating equity and inclusion considerations; thus, small changes focusing on specific portions of a course were a step forward and commended. Third, as a team, we reflected on the program as a whole and how we could infuse meaningful learning opportunities in program-related experiences such as advising, research, graduate assistantships, and monthly program meetings with students. The investment in this faculty development paid off. The graduate program and courses experienced marked changes—an affirmation echoed unanimously by the program's faculty members and associated with their personal growth in the domain.

After completing our work, the APA released the *Equity, Diversity, and Inclusion (EDI) Toolkit for Journal Editors* (2025), which further justified the time and energy we allotted to updating our graduate program. This resource underscores the need to train students on positionality, the historical and cultural contexts of our work, and the importance of inclusive language. These elements, among others, are necessary for aligning manuscripts with editors' expectations regarding equity and inclusion, regardless of research topic or publication outlet. By integrating this content into our curriculum (as described above), we are ensuring our students are well-prepared to meet the latest standards of our field and contribute to a more inclusive and ethical research community.

Prioritize and Protect Time Allocated to This Work

When acknowledging the barriers to this work for faculty, it is important to ask how departments or those with decision-making power can help faculty protect time and make space for this work. For example, we recommend that departments or faculty groups have nuanced conversations about how equity content is scaffolded throughout the graduate program to clarify expectations. Although some

measurement and methods courses may not heavily emphasize content related to equity, there are typically spaces or experiences to introduce key concepts (e.g., assistantships, research, program meetings), or opportunities to engage in inclusive teaching practices or more diverse content (e.g., scenarios used in courses, practice datasets). These faculty discussions of sequencing learning activities take time; thus, consider these discussions as the focus of faculty meetings or retreats. Finally, faculty need administrators to not only recognize but value the faculty's efforts to improve equity and inclusion in their program. This work is added to already busy faculty schedules, leaving less time for research. Thus, this work should be rewarded, avoiding inequities when it comes to tenure and promotion.

Protect the Faculty Doing this Work

At a minimum, faculty must be protected to engage in this work. Shortly after completing the professional development, Donald Trump was elected U.S. president. Very rapidly diversity, equity, and inclusion (DEI) initiatives were attacked. On February 14, 2025, universities received the "Dear Colleague" letter from the U.S. Department of Education's Office for Civil Rights. The letter aimed to curb race-based decisions and benefits at federally funded colleges and universities and threatened legal action with respect to DEI related procedures and policies. We note this context because these threats and attacks can be a major barrier to engaging in and teaching equity-centered assessment: a barrier that was present but not as ominous years earlier. As of this writing, we, as a graduate program, continue towards the goals of creating a culture that 1) acknowledges the racist history and current practices of the field and 2) creates support for faculty and students as they build their skills to use assessment and methods for good rather than harm. With that said, we acknowledge and respect the risk tolerance of all faculty, which includes those who do this work more covertly. With protection, encouragement, and support from administration, faculty will be more likely to engage in the learning necessary to advance equity in graduate programs.

Adapt Professional Development Course Materials

Faculty development work takes time and intentionality. Our goal in sharing the course is to provide a strong foundation for those interested in creating a similar intensive development opportunity. From an instructional design perspective, we have identified a number of design changes that could be considered for future instances of this course or may be useful to other professionals (e.g., leaders at testing companies) who are considering developing their own course. Overall, we suggest creating more detailed guidance that is presented at the beginning of the course about how the various components (e.g., content, Evolve Guide, discussions) work together. Based on participants' feedback, although simple instructions for how to complete each component were provided, there was a lack of clarity on why these design choices were structured as they were. Creating more comprehensive overview content will help faculty situate themselves in the course to decrease their cognitive load. We would also emphasize the benefit and critical nature of partnering with subject matter experts to build discipline specific content. Specifically, in Unit 2, participants need to be engaging with current and relevant disciplinary materials, discussions, and resources, which subject matter experts provide. Moreover, when designers partner with subject matter experts to integrate this content into the course, it bolsters buy-in from participants. In future iterations of the course, we recommend reviewing the provided resources and updating them based on relevancy, context, and cognitive load.

Evaluate, Improve, and Share Professional Development and Graduate Program Materials

Faculty, including those in our program, must develop a plan to evaluate whether they are adequately addressing equity and inclusion in their educational measurement graduate programs. This

feedback should include guidance from leaders in educational measurement and from current students and program alumni. If faculty are missing the mark, they must course correct, which will necessitate protected time and sustained effort. We encourage our professional organizations (e.g., APA, AERA, NCME) to provide space to share ideas for course content, in addition to ways to ask difficult questions regarding the quality of the content and experiences that are developed to enhance knowledge and skills related to equity and inclusion in our measurement, statistics, and methods courses. Again, our professional development course may be viewed by some professionals as a low-level starting point with much more learning to be done by the faculty and many more programmatic changes necessary to effectively influence students' knowledge and skills to address equity issues in educational measurement. We would hope these conversations and resources would be shared with a supportive and encouraging tone given the difficulty of this work. If the field not only shares their expectations (Ackerman, et al., 2024; APA, 2021c; NCME, 2023), but also resources and mechanisms to receive actionable feedback, we are a step closer to our graduate programs modeling and promoting inclusive excellence. In turn, graduates from our educational measurement programs will be better equipped to address and advance equity in assessment-related work.

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Appendix
Module-Specific Assessment of Unit-Specific Outcomes

Outcome	Content Coverage and Growth in Self-Reported Confidence Reported after Each Module
	Unit 1: Identity & Systems
Recognize my position and identity in order to engage in vulnerable conversations that will build solidarity within the Ph.D. program.	Throughout Unit 1, participants were introduced to the concept of recognizing their own position and identity. This outcome was covered across multiple modules, starting with an introduction, followed by reinforcement, and finally reaching mastery. Initially, there was a dip in confidence, likely due to the challenging nature of self-reflection and vulnerability. However, as participants progressed through the modules, their confidence remained stable.
Discover how my personal identity and professional work are situated within a broader institutional system.	This outcome was addressed in two modules within Unit 1, first being introduced and then reinforced. Participants experienced a steady increase in confidence throughout the unit, suggesting that they needed time to settle in and reflect on their personal and professional identities within the broader institutional context.
Respect how student identity impacts learning spaces.	Covered in two modules, this outcome was introduced and reinforced within Unit 1. After the initial introduction in module 1, participants reported moderate to high confidence. Although there was a slight dip in confidence during module 2, where the concept was reinforced, confidence levels rose again by the end of module 3, even though it wasn't explicitly covered in that module.
Imagine teaching in a racially liberated education setting.	This outcome was explored across three modules, progressing from introductory to reinforcement to mastery. Participants reported slight confidence after module 1, which slightly rose, but generally remained consistent through module 3, despite the 'mastery' coverage.
Articulate the contextual challenges to actualizing the liberated educational setting.	This outcome was covered in three modules, from introductory to reinforcement to mastery. Participants reported slight confidence after module 1, which slightly rose through module 3.
	Unit 2: Equity and Assessment
Identify the role of intersectionality in their own discipline.	In Unit 2, the role of intersectionality within participants' disciplines was reinforced in modules 5 and 6. Faculty began with confidence levels averaging between somewhat and mostly confident, which remained steady throughout the reinforcement.
Describe how the "White Racial Frame" shapes educational and psychological assessment,	This outcome was introduced in module 4 and reinforced in module 6. Faculty remained somewhat confident across all three modules in Unit 2.

Outcome	Content Coverage and Growth in Self-Reported Confidence Reported after Each Module
measurement, and quantitative methods.	
Compare the "White Racial Frame" that has historically structured practices in our field with critical theories and culturally responsive approaches.	Throughout Unit 2, this concept was introduced, reinforced, and then covered at a mastery level across the three modules. Initially, faculty were only slightly confident, but their confidence rose to somewhat confident after reinforcement, but dipped down (still above initial confidence) after mastery coverage. This was likely due to a more comprehensive understanding of "White Racial Frame" as content was covered more in-depth.
Describe how to apply an equity or culturally responsive approach toward measurement, assessment, and quantitative methods.	This outcome was reinforced and covered at a mastery level in modules 5 and 6. Faculty started somewhat confident after module 4, and their confidence steadily increased to above somewhat confident after reinforcement and mastery coverage.
Develop program-level intentions with colleagues to create a more inclusive curriculum.	This outcome saw the most significant increase among all outcomes. Content was introduced in module 4 and reinforced in modules 5 and 6. Initially, faculty had only slight confidence, but this rose significantly after being reinforced twice, averaging just under mostly confident for all faculty at the end of Unit 2.
Engage with colleagues in interdisciplinary scholarly conversations to foster inclusive excellence.	Reinforced in modules 4 and 6, with no coverage in module 5, this outcome saw faculty starting somewhat confident after initial reinforcement, which later rose to just below mostly confident by the end of Unit 2.
Unit 3: Teaching Practices	
Curate a list of activists, educators, scholars, and institutions to incorporate in the program's curriculum in collaboration with colleagues.	In Unit 3, this outcome was introduced in module 7, after which faculty felt somewhat confident. The concept was then reinforced in module 8 before the post-test.
Evaluate the curriculum in a selected course to identify what voices are centered.	This outcome was reinforced in module 7, where faculty confidence levels were just under mostly confident.
Critically reflect on my learning experiences and how that has shaped my teaching.	Introduced in module 7, this outcome saw faculty confidence levels just under mostly confident. It was then reinforced in module 8 prior to the post-test.

Outcome	Content Coverage and Growth in Self-Reported Confidence Reported after Each Module
Select specific pedagogical strategies to apply within my teaching practice in order to foster inclusive excellence.	Before content coverage, faculty confidence levels were between somewhat and mostly confident. This outcome was reinforced in module 8 before the post-test. Note that this outcome was only covered in one module at the end of the course, which may have limited the data supporting growth.
Critically evaluate my current approach to assessment in their courses.	Faculty confidence levels were between somewhat and mostly confident before content coverage. This outcome was reinforced in module 8 before the post-test. This was only covered in one module at the end of the course, which may have impacted the data supporting growth.
Select specific learning assessment strategies to apply within my teaching practice in order to foster inclusive excellence.	Before content coverage, faculty confidence levels were between somewhat and mostly confident. This outcome was reinforced in module 8 before the post-test. This was only covered in one module at the end of the course, potentially limiting the data supporting growth.

Note. The course was divided into three units, each progressively building faculty confidence and competence through a series of modules, with content covered at the introductory, reinforcement, and mastery levels. Confidence was measured after Unit 1 and Unit 2 with results shown graphically in Figures 1 and 2.