Learning goals, outcomes, and impactful course elements in diversity, equity, and inclusion education: A mixed methods analysis

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Introduction

When evaluating the medical education curriculum, it is imperative to also evaluate the experiences with diversity, equity, and inclusion as students navigate towards providing more equitable care for future patient populations.[1,2,3] As emphasis is focused on physicians providing more equitable care, it is also important to evaluate the ways in which this education can be more approachable and individualized for diverse groups of students, as it often requires stepping out of one's comfort zone, evaluating implicit biases, and different learning needs depending on prior experiences with course topics.[3]

At Des Moines University, there is initial emphasis on this education through the Physician as a Professional course, which is a one-credit pass/fail course taken by all DO students in the spring of their first year. This course is organized around four themes with relevance across intersectional patient identities; Identity, Bias, Communication, and Health Disparities. During each theme of the course, students participate in faculty-led small group discussions and engage with community members through large group panels and smaller breakout discussions discussing their experiences in health care from diverse intersectional perspectives.

Additionally, students complete self-directed learning activities supported by asynchronous modules that guide student selection of activities that help them further engage with their individual learning goals (e.g., through participating in a campus or local community activity related to a course topic).

Other core components in the course included lectures, a workshop on microaggressions, and written reflections regarding self-directed learning experiences. Second-year medical students acted as teaching assistants to facilitate breakout sessions with community members and gave feedback regarding written reflections.

To understand the student experience, all students in the course were given the opportunity to offer feedback regarding the course content, format, and design with qualitative and scaled responses. Additionally, students were asked to identify individual goals for learning before beginning the course, and to assess the extent to which their goals were met through a post-course survey. These responses were analyzed for insight into students' major goals for diversity, equity, and inclusion education, as well as ways to improve the delivery and content through this course.

Methods

Quantitative Feedback:

Participants were recruited from the DO class of 2026 enrolled in the Physician as a Professional course during their OMS1 spring semester (N= 220 students). The students were assigned a pre-course Qualtrics survey that included identification of individualized learning goals, as well as a post-course Qualtrics survey including their feedback for the course and the satisfaction with the learning goals in coordination with the course content. Students could consent to have their responses included in this IRB-approved research, for which 201 students consented (91.4% response rate). In the pre-course survey, students were asked to identify three course-relevant topic areas as well as three specific patient populations they most wanted to learn about. In the post-course survey, they were then asked to identify three areas that they learned most about, as well as their satisfaction based on the course content covering the initial learning goals they had identified. Descriptive statistics regarding these topic areas were calculated.

Qualitative Feedback:

When seeking open-ended qualitative feedback on the post-course survey, two questions were raised: 1) suggestions for improvement in course format, content, or design; and 2) what was most beneficial for progressing in individualized goal areas. For each of these questions, the feedback was first read thoroughly, and notes were made regarding the theme(s) in each response. After getting a general idea of pertinent themes, the feedback was then read again and sorted into a specific category, or multiple categories if the response dealt with multiple topics. In addition, a secondary reviewer also viewed and sorted the feedback. When there were discrepancies in the sorting of individual feedback, these were discussed, and a resolution was sought until all qualitative feedback was appropriately sorted.

Results

Quantitative: With respect to pre-course individualized learning interests, students selected a wide variety of learning goals regarding course topics with the most popular being using cultural assessments in an encounter and learning about social determinants of health (Figure 1A). When asked about specific population groups, students had major interest in learning about those with housing instability or homelessness, people with disabilities, and refugees or immigrants (Figure 1B). After taking the course, students responded that most of the knowledge gained during the course regarded implicit bias, health disparities, impacts of racism on health, and social determinants of health. Students felt that much of the course content was focused on being aware of implicit biases regarding race, gender identity and sexual orientation, as well as a myriad of other factors which was reflected in the post-course survey where students endorsed learning the most about implicit biases . Additionally, as part of a course emphasis on cultural humility and ongoing learning in the future, students were prompted to identify areas in which they would like to continue learning in the next year. Most noted areas included a desire for more information regarding specific diverse cultures, managing cultural conversations, and learning from physicians with experience in course topics (Figure 1C). Frequently endorsed topics for future learning included incorporating a cultural assessment into an encounter, health literacy, and working with non-English speaking patients. Finally, students were asked to rate their satisfaction with the course content as it related to meeting their pre-course learning goals, in which 93.7% of students reported some degree of satisfaction (Figure 1D).

Qualitative: Table one shows the many different themes noted from the feedback in the post-course survey. Among the feedback regarding improving course content, participants mentioned expanding the content covered and scheduling the community panels differently. Additionally, participants mentioned the benefits of the community member panel and breakout discussions, while offering suggestions for optimizing these. One specific comment offered by a significant number of students regarded the nature of panelist trainings before the event. When evaluating what helped support progress on individual goals, many students found that various course elements were most helpful in their learning including asynchronous modules, community member panels, and self-directed learning activities (Figure 2). Some students found their own actions to be most helpful, which included self-reflection, interactions with others, and independent research. Some even cited building on their course knowledge with self-reflection and discussions to utilize both methods of instruction (Figure 2). Of note, students often reported conflicting feedback (I.e., some students calling for longer community panels and others calling for shorter community panels).

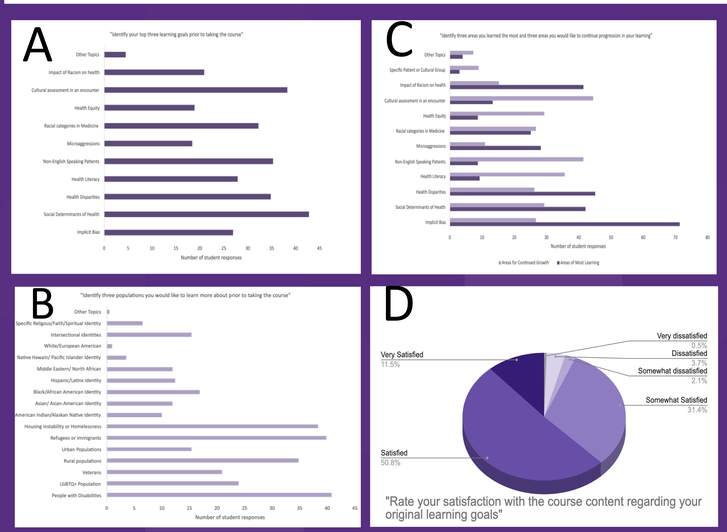

Figure 1: Before taking the course, students were asked to choose the top three learning goals and responses are shown in Panel A. Similarly, participants were asked to choose three populations they would like to learn from taking the Phys Pro B course; student choices are shown in panel B. After taking the course, participants were asked to choose the areas they learned the most and areas they would like to continue learning, shown in panel C. Lastly, students were asked to rate their satisfaction regarding the original learning goals before taking the course; shown in panel D.

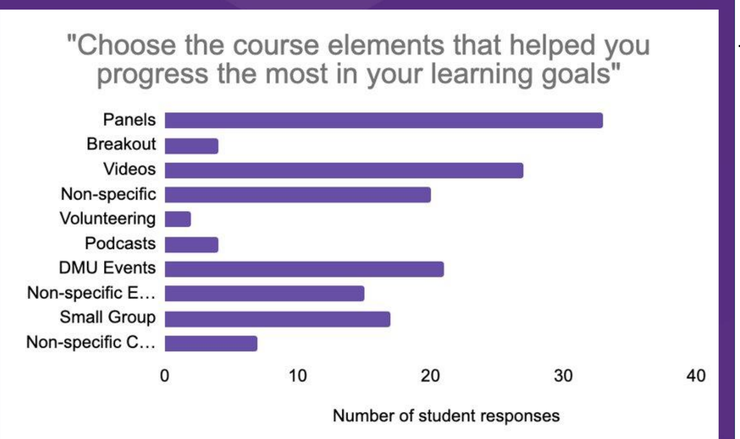

Figure 2: Participants were asked to choose the course elements that were most helpful in the progression of the course as it related to their learning goals. Responses are shown in the figure above.

Table 1: Themes and subthemes regarding improving course content, logistics, and structure

Theme Subthemes	Representation from Student Feedback
Content	
Suggestions for Future Content (N=13)	"... My main suggestion would be providing concrete ways we can apply content learned into our everyday life... feel I learned a lot of theory that was incredibly enlightening but I'm not sure where to go from here."
Scope of Content (N=9)	"This class felt very political at times, something that I don't feel is appropriate in an educational setting. I think it's very important to teach how to care for patients that come from different backgrounds and identities, but it seemed that this class was more about teaching us what we should think and which side of certain political topics we should be on."
Logistics	
Overall good course (N=7)	"Overall, I really enjoyed [the] course and the opportunity to delve deeper into issues like implicit bias and microaggressions"
Session Scheduling (N=4)	This category was identified based on students' responses regarding session scheduling around other academic responsibilities as well as the length of the various sessions in the course.
Interactivity (N=11)	"...I would really rather have this course be more 'hands' on. I think the best way to learn about a lot of these concepts is to put yourself in new situations around different people and navigate those experiences"
Community Member Engagement Activities	
Good panels (N=11)	"... the community panels [were] an effective way of learning about what our future patients want more in a provider"
Timing (N=17)	This category focused on the division of time between the large group panel time and smaller breakout sessions with the community members. There was conflicting feedback regarding the timing of these two elements.
Panelist Selection and Training (N=12)	There was a variety of feedback that focused on the selection of panelist members, including a desire for panelists with viewpoints that were not represented on this year's panels including physicians, religious leaders, and more.
Miscellaneous	
Miscellaneous comments (N=6)	Students enjoyed the videos within the self-directed activities, but desired more of the interactive course elements like the community member engagement activities.

Conclusion

When reviewing the quantitative feedback given by students based on the learning goals and outcomes, most students reported satisfaction in their learning goals based on the course content. This high level of satisfaction is likely achieved through the self-directed learning component of the course and the interactive activities like community member engagement activities. Because of the individualized nature, these activities are approachable for students with varying levels of comfort with the content.

In the post-course qualitative feedback, there were many pertinent themes that arose. Students consistently valued the community member panel sessions as a way of learning from the experiences of those who are frequently oppressed in health care, yet also identified some ways to optimize these sessions. This gives insight into the idea that students desire information and want to learn from the experiences of others, including those who work in healthcare advocacy and have their own personal experience with healthcare providers. Students also noted that there should be training of the panelists before the event to assist panelists in providing constructive, actionable guidance to students and to equally share session time among panelists. Although such panelist training already occurs routinely each year by course faculty, this feedback will be incorporated into future panelist trainings and course faculty will also be more transparent in informing future student cohorts of the nature of panelist selection and trainings. Of note, despite providing training and guidance, opening the course to contributions from many individuals inherently reduces faculty control over the exact content that is ultimately shared.

Finally, students are interested in additional ways to incorporate course information into encounters. Most students appreciated the information on racial categories in medicine, implicit bias, and social determinants of health, yet were less confident how to apply this in an appropriate way in a patient encounter. This identifies a crucial area to strengthen existing content on how to discuss patient preferences and other social factors that affect their medical care through updates to this course and through extending this introductory learning during later courses in the curriculum (e.g., clinical courses and clerkship didactics).

The information in this study will help to inform curricular modifications in order to help students progress in their learning goals and help motivate ongoing learning regarding topics on diversity, equity, and inclusion. It is also important to note the nature of the content in this course will find students who are in different stages of comfort regarding topics of diversity, inclusion, and cultural humility. Given these varied experiences, students often presented conflicting feedback that called for opposite things. The course directors emphasize the importance of the individual learning aspects such as the self-directed learning experiences and engage activities which allow students to customize their experience through the content.

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