



Advancing Inclusive Mentoring Through an Online Mentor Training Program and Coordinated Discussion Group

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Abstract. Mentoring is key to ensure success of the high impact practice of undergraduate-led research and scholarly activities; however, most faculty and staff members are not trained in the best practices of mentoring undergraduate students. The National Institutes of Health-funded Building Infrastructure Leading to Diversity (NIH BUILD) Initiative at California State University Long Beach is developing an online mentor training program with a coordinated discussion group to refine mentoring skills across faculty and staff from all disciplines. Faculty and staff members participated in two pilots of the Advancing Inclusive Mentoring (AIM) Program, where participants watched training videos and came together to discuss mentoring: either face-to-face (spring 2020) or virtually (fall 2020). Participants indicated that the videos and discussion were engaging and reported that AIM provided useful information on communicating with their own mentees as well as with any student on campus. Participants also reported that AIM provided strategies to work with students from diverse backgrounds and strengthened their commitment to inclusive mentoring. Finally, participants indicated that they would recommend AIM to colleagues and that the program was not only beneficial to their mentoring, but also that they would put into practice techniques that they had learned. There were some differences in usage, but no significant differences in participants' ratings of the program across the two delivery formats. Thus, the AIM Program with facilitated discussion appears to provide a useful mentor training experience in both in-person and virtual formats. Because this unique program is intentionally inclusive to faculty and staff mentors across all disciplines, the goal is that this training will ultimately benefit student success across campus.

Keywords: Mentor training · Faculty development · Online learning

1 Introduction

1.1 Impact of Mentoring

Mentoring is key to ensuring the success of the high impact practice of hands-on undergraduate research and scholarly activities. Trainees report that strong mentorship is critical to their success and contributes to their productivity, in addition to providing long term career benefits post-graduation [1–4]. Faculty mentors can influence student persistence in their undergraduate degree as well as a mentee's decision to continue in the field [5, 6]. Positive and inclusive mentoring experiences are of particular importance to mentees of historically marginalized groups [7–9]. Students who work closely with a faculty member on research or other scholarly or creative projects are more engaged and more likely to consider faculty mentors as resources [10, 11].

While mentoring is expected of most faculty members and many staff members on university campuses, few professionals have been formally trained in best practices in mentoring. Indeed, the definition of what constitutes mentoring can vary broadly both in practice and by researchers [12]. Recent definitions of mentorship include reference to a longer-term supportive relationship inclusive of both psychosocial and professional development for the purpose of enhancing mentee self-efficacy and success [13]. These modern definitions build upon earlier ones that include training of specific skills, presenting final products to professionals in the field, and other aspects of both career building, advice and support [14]. However, in actual practice mentoring received by students can differ substantially across mentors. Some mentors view the mentoring role as one dedicated solely to the training or development of discipline-specific skills, whereas others also include mentee growth and development as key aspects of a mentoring practice [6]. Indeed, the mere presence of a mentor itself may not be enough to generate the positive effects on mentees, particularly in terms of persistence to graduation and staying in the field from students belonging to historically marginalized groups [15, 16]. More important for these outcomes is the type of mentoring a student receives, speaking to the need of mentor training programs; however, most faculty and staff members are not trained in the best practices of mentoring undergraduate students [17, 18].

1.2 Mentor Training Programs

Targeted and formalized training for mentors of research students benefits both mentees and mentors. Mentors who completed training enhanced key mentoring skills, including communicating with mentees, promoting mentee professional development and independence, and ethical mentorship [18]. Students of mentors who have completed a formal mentor training program reported that their mentors provided a better mentoring experience, acknowledged their contributions more, and increased their motivation as compared to students of non-trained mentors [19]. Recent mentor training programs have been specifically developed for medical schools or large research institutions, PhD students, and post-doctoral fellows, providing critical mentor training to these specific groups [20, 21]. However, the needs of mentors at largely undergraduate institutions differ, as mentors of undergraduate researchers introduce inexperienced students with a high turn-over rate and limited time to conduct research to their disciplines [19].

To address both the need of a formal mentor training program and the requirement that it serves experienced mentors of primarily undergraduate research students, California State University Long Beach (CSULB) developed a mentor training program as part of the National Institutes of Health-funded Building Infrastructure Leading to Diversity (NIH BUILD) initiative. The CSULB BUILD program is designed to increase diversity in health-related research careers by supporting sites such as CSULB, a Hispanic Serving Institution (HSI) and Asian American Native American Pacific Islander Serving Institution (AANAPISI). The CSULB BUILD Mentoring Program was established in 2015 and successfully trained 93 faculty members across four Colleges (College of Engineering, College of Health and Human Services, College of Liberal Arts, and College of Natural Sciences and Mathematics) and 24 different Departments [19]. As part of the CSULB BUILD initiative, this training focused primarily on faculty mentors of undergraduate students in the health-related disciplines from the four participating colleges. However, interest from faculty and staff members outside of these disciplines, in addition to the desire to develop discussion of equity and inclusion in more detail, prompted an expansion of the program to our campus community as part of institutionalization efforts, and the Advancing Inclusive Mentoring (AIM) Program was created. Because time and accessibility are always factors to consider in the development of any training program, it was decided to create an online training course, with complementary discussion sessions to allow cohorts of faculty and staff working through the online course a venue to discuss the training material and share their experiences. In 2020, the CSULB BUILD program partnered with the Faculty Center on campus to pilot the implementation of the first two modules of this program. Originally, the intent was to have the complementary discussion sessions for the program held in-person to promote engagement and community within the university, which occurred in the first pilot of the program in spring 2020. However, due to the COVID-19 campus closure, the discussion sessions were held remotely during the fall 2020 semester. In this paper, we will compare the participants' viewing behaviors and ratings of the pilot program across semesters to determine whether the format of the discussion delivery impacts the overall effectiveness of the training experience.

1.3 Development of the Advancing Inclusive Mentoring (AIM) Program

The AIM Program includes six different modules with 35 episodes on communicating with students, inclusive mentoring, mentee growth and development, mentee health and wellbeing, mentee-centered mentoring, and a mentoring toolbox of tips (see Table 1). In addition to enlisting faculty and students in film production, different faculty members and administrators 'host' each episode to bring a feeling of shared ownership to AIM. These hosts introduce topics and tips, with additional suggestions provided by a narrator. Actors reenacted actual mentoring-related stories from CSULB students and faculty members, with names and affiliations changed, in order to engage viewers and provide context for the mentoring tips. As of fall 2019, the first two modules of the online AIM mentor training program had been developed. We piloted these two modules in the spring 2020 semester to obtain feedback about the content and appropriateness of the episodes. Moreover, to ensure that training had impact, we supplemented the two hours of video episodes from the modules with 3 hours of discussion (1.5-hours sessions followed the

viewing of each of the two modules) led by the Director of the CSULB Faculty Center. The combined time for watching the videos and attending the discussion sessions exceeded the recommended minimum mentor training duration threshold of four hours, which was previously empirically determined to have impact on mentoring outcomes [22]. For the CSULB implementation of the AIM Program, the goal is to reward faculty members who complete the training with certificates of completion that provide a priority status when competing for select internal awards, such as the CSULB Summer Undergraduate Research Fellowship. For internal branding purposes and to engage the campus community, the AIM Program is called the ‘Beach Mentor Program’ at CSULB. The content of the Beach Mentor Program is identical in content to the AIM Program, which is designed for broader dissemination.

The implementation of the spring 2020 pilot was completed before the CSULB COVID-19 campus closure in March of 2020, but the closure delayed the filming and production of the subsequent modules that were intended to be piloted in fall 2020. In fall 2020, CSULB was open to remote instruction so the same two modules were piloted again, this time using a virtual discussion format with a new cohort of participants. The goal of this paper is to describe the implementation of AIM in both formats and compare participants’ viewing behaviors and subjective evaluation of the modules across the different formats (i.e., in-person discussion vs. online discussions in a virtual environment).

Table 1. Modules in the Advancing Inclusive Mentoring Program

Module name	Number of Episodes
I. Communicating with your mentees	9
II. Inclusive mentoring	6
III. Cultivating mentee growth and development	5
IV. Supporting mentee health and wellbeing	5
V. Mentee-centered mentoring	5
VI. Mentoring toolbox	5

2 Implementation of the AIM Program Pilots

2.1 Participants

While the goal of the AIM Program is to be open to all faculty and staff who work with students in a mentoring role, participants for the pilots were more targeted. That is, participants were recruited from the CSULB BUILD faculty mentors (their mentees participate in a formal undergraduate research training program), staff with student advising roles who were recommended by their supervisors, and tenured/tenure-track faculty who were recruited directly by the Faculty Center. The groups included 15

participants (11 faculty and 4 staff members) in spring 2020 and 16 participants (11 faculty and 5 staff members) in fall 2020. The 31 total participants were from 27 different departments or programs across seven different colleges at CSULB.

2.2 Training Activities

For the pilot of the AIM Program, each cohort participated in two sessions, where participants watched the different episodes of the two modules on their own and came together every other week in a group led by the Director of the CSULB Faculty Center to discuss mentoring either: face-to-face (spring 2020) or virtually via online video conferencing (fall 2020). The first two modules of the AIM Program include the following episodes:

Module I, '*Communicating with your Mentees*':

1. Active Listening
2. Constructive Feedback
3. Favoritism
4. Virtual Mentoring
5. Personalities and Communication
6. Nonverbal Communication
7. Power Differentials
8. Professional Limits in Mentoring
9. Communication Across Differences

Module II, '*Inclusive Mentoring*':

1. Why Equity and Inclusion Matter
2. Identifying and Minimizing Unconscious Bias
3. Combating Discrimination
4. Strategies for Culturally Aware Mentoring
5. Understanding Privilege
6. Microaggressions in Mentoring

To facilitate participant access to the training materials, the AIM videos and supplementary resources were posted on a BeachBoard site, the Desire-2-Learn (D2L) learning management system used by CSULB. The participants' commitment involved watching the two modules (40–50 min each) and taking a short quiz to demonstrate understanding at the end of each module (2 quizzes total, with 9 and 7 questions, respectively, for Module I and II). To move onto the next module, participants were required to complete the quiz with a 50% success rate within 2 attempts.

Following module viewing and completing the quiz, participants engaged in a ninety-minute group discussion of each module. Participants in the spring 2020 group met in the CSULB Faculty Center for these discussions and in fall 2020 the discussions were held on the Zoom platform. During the sessions, faculty and staff members shared ways in which they could incorporate information shared in the episodes in their mentoring of students. The initial session with each cohort started with introductions during which participants were asked to share challenges (if any) they have had in mentoring diverse

students. This provided participants the opportunity to identify biases they might harbor (with the explicit acknowledgment that everyone harbors biases). Group norms were also established, including making space for others to contribute, and maintaining confidentiality about personal information shared, while still using knowledge gained to inform future practice and actions.

At the start of each session, participants were asked to share major take-aways (the great, good, bad, and ugly) from the videos in terms of content and production, including whether they “saw themselves” depicted in the videos showing examples of both positive and unconstructive mentoring styles. Faculty Center handouts with additional information and case studies were made available to the participants prior to the discussion session. Each module contained several learning objectives, which were discussed independently or in conjunction with other objectives that addressed similar themes. The group discussed recommendations made for each objective and explored ways in which faculty/staff could become more effective mentors to mentees of diverse backgrounds, personality traits, abilities, and levels of academic and professional preparedness. Ideas were exchanged on lessons learned and how to address or avoid pitfalls identified in the videos. Participants were further encouraged to share examples of challenges relevant to each objective they had experienced in interacting with students, strategies they adopted in attempts to overcome such challenges, and whether there were indications that such strategies were effective.

Participants were reminded of the potential effects (positive and negative) mentors’ practices could have on mentees, especially given the power dynamics that exist in the mentor/mentee relationship. Participants were reminded of verbal and non-verbal cues to be cognizant of as indicators of the efficacy of mentoring interaction. Each session additionally engaged participants in group discussion of activities (scenarios or real-life occurrences) relevant to learning objectives and the module in general. Major take-aways were reported to the entire group. Participants were also directed to the supplemental resources for each module made available through the learning management system. Each session ended with “final thoughts” during which participants were encouraged to identify one major takeaway from the module and to share something specific (if any) they planned to do differently when interacting with mentees in the future.

Following the completion of the program, participants were asked to complete a brief Qualtrics survey to assess the impact of the training program. For both the spring 2020 and fall 2020 cohorts, a third session was scheduled to obtain participant feedback about the program.

2.3 Data Sources and Statistical Analysis

Data for the two pilot modules of the AIM Program included usage data (number of videos in the module viewed, number of supplemental materials in the modules viewed, viewing dates, etc.) obtained from the learning management system. Quiz scores for each module were also obtained to measure participants’ retention and comprehension of the topics covered. Participants’ subjective ratings about the quality of the content and videos in the modules, as well as other open-ended comments were obtained through an online Qualtrics survey administered to the participants after completion of the two module discussion sections. Finally, a third discussion session was held on the Zoom

platform as a focus group to collect comments from participants. Because the feedback from comments in the focus group was consistent with the survey feedback, results from the evaluation session will not be presented in the present paper due to space constraints. Descriptive and inferential statistics were performed on the different dependent measures, and the specific analyses used will be described in the appropriate results section below. The alpha level for statistical significance for all analyses was set to $p \leq 0.05$.

3 Results

3.1 Participants' Viewing Behaviors and Module Quiz Scores

Participants' viewing data from the learning management system was analyzed to determine if there was an association between viewing behaviors and the format of the pilot program based on the semester of participation. Participants in spring 2020 experienced the discussion in an in-person format and participants in fall 2020 in a virtual format. Chi-Square analyses were performed to determine whether a relationship existed between the semester and when participants watched the videos in the modules and whether they watched the videos in one or multiple sessions, see Figs. 1 and 2.

For Module I, there was an association between the semester and when participants viewed the videos, $X^2(4) = 9.498, p = 0.05$. More participants watched the videos before the discussion day in spring 2020 when it was held in-person than in fall 2020 when the discussions were held virtually. For Module II, no association was found between the semester and when participants viewed the videos, $X^2(5) = 6.474, p = 0.263$.

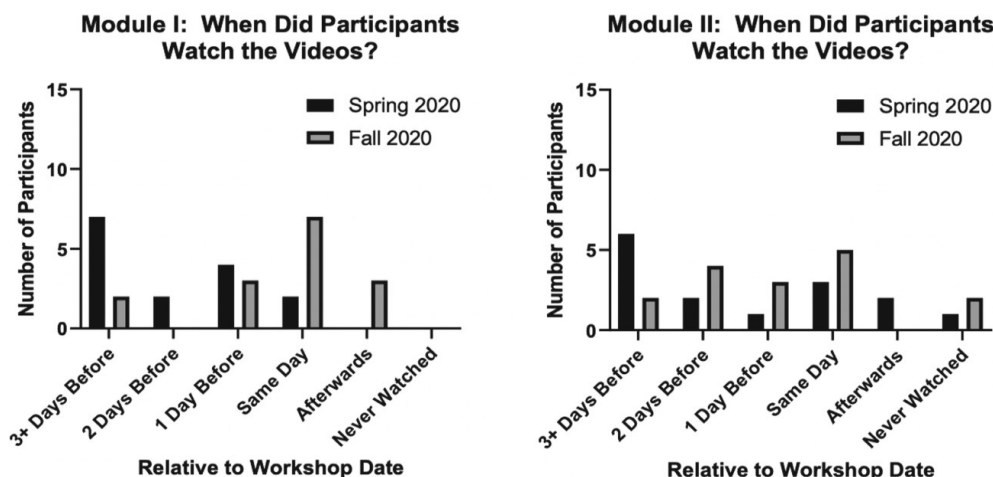


Fig. 1. Timing of video viewing by spring 2020 ($n = 15$) and fall 2020 ($n = 16$) participants relative to date of discussion for Module I, Communicating with your Mentees, and Module II, Inclusive Mentoring.

No association was found between semester and whether the participants viewed the videos in one session, multiple sessions, or never viewed the videos for Module I, $X^2(1) = 0.354, p = 0.552$, or Module II, $X^2(2) = 1.00, p = 0.606$. Participants tended to view the videos in one session instead of multiple sessions. Most participants viewed

all of the episode videos in the modules. Three participants (one from spring 2020 and 2 from fall 2020) did not view any of the videos in Module II. Because all the episodes must be viewed in their entirety before the participants could access the quiz for the respective module, not all participants completed the quiz (i.e., 2 participants in each cohort failed to complete the quiz).

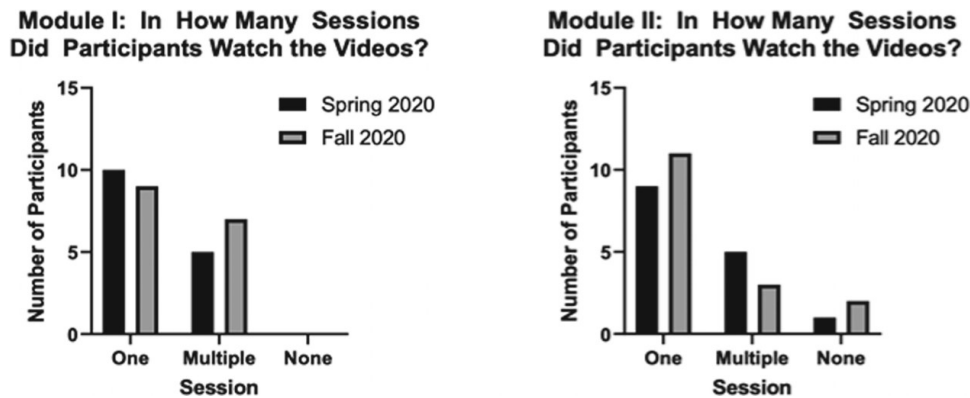


Fig. 2. Number of participants who viewed the videos in the modules in one session, multiple sessions, or none by semester (spring 2020 or fall 2020) for Module I, Communicating with your Mentees, and Module II, Inclusive Mentoring.

The participants' performance and usage data are summarized in Table 2 by semester (spring 2020, in-person discussions vs. fall 2020, online discussions). One-way Analyses of Variances (ANOVAs) were conducted for each performance measure listed in Table 2, with the semester as a factor (see last column for F-ratios and p-values) to determine whether there was an effect of the delivery format. There was a significant effect of semester for the measure of number of supplemental materials viewed for Module II. Participants in the fall 2020 cohort accessed fewer supplemental materials for the second module compared to the spring 2020 cohort. For the spring 2020 cohort, 73% ($n = 11/15$) of the participants accessed at least one of the supplemental documents. For the fall 2020 cohort, 75% ($n = 12/16$) of the participants accessed at least one of the supplemental documents.

3.2 Participant Subjective Feedback

Participants from both groups were asked to indicate their level of agreement with nine statements (see Table 3) using a 4-point Likert-like scale (1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree), and provide answers to open-ended questions about the modules. Only a subset of the program participants responded to the survey ($n = 10$ from spring 2020 and $n = 14$ from fall 2020), and not all survey respondents answered every question.

A series of ANOVAs were also conducted to determine whether there were significant group differences in ratings across the two semesters, see last column of Table 3. No effects of semester were obtained, indicating that the ratings were similar across groups, despite differences in discussion format (online vs in person), therefore data from the

two cohorts were combined for subsequent analyses. For each statement listed in Table 3, the participants’ ratings were submitted to one sample *t*-tests, using a test-value of 3.0 (agree). For all but one question, the ratings were significantly above the test value of 3.0 (see column 4 of Table 3), indicating agreement with the statement.

Table 2. Participant performance and usage data (means and standard deviations) for the two groups of participants. The F-statistics for the ANOVAs showing the effect of Group is in the last column (significant effects in bold and indicated by *statements).

Performance Measure	Spring 2020 (hybrid)		Fall 2020 (online)		Effect of Semester
	Mean	Std Dev	Mean	Std Dev	
Module I: Quiz Score (percent correct)	83.52 (n = 13)	5.36	82.65 (n = 14)	6.08	F(1,25) = 0.152, p = 0.70
Module I: Number of videos viewed (out of 9)	9.00 (n = 15)	0.00	8.50 (n = 16)	1.55	F(1,29) = 1.559, p = 0.222
Module I: Number of supplemental materials viewed (out of 9)	4.47 (n = 15)	3.78	3.56 (n = 16)	3.42	F(1,29) = 0.489, p = 0.490
Module II: Quiz Score (percent correct)	84.00 (n = 13)	7.37	85.00 (n = 14)	6.50	F(1,27) = 0.149, p = 0.702
Module II: Number of videos viewed (out of 6)	5.67 (n = 15)	1.29	5.25 (n = 16)	2.05	F(1,29) = 0.451, p = 0.507
*Module II: Number of supplemental materials viewed (out of 17)	6.60 (n = 15)	5.90	0.88 (n = 16)	2.28	F(1,29) = 13.016, p < 0.001

3.3 Additional Questions from the Fall 2020 Cohort Survey

The fall 2020 survey included several additional questions (see Table 4). For each of these additional statements, the participants’ ratings were submitted to one sample *t*-tests, using as test-value of 3.0 (agree or good). Participant ratings were significantly higher than 3.0 for three of the questions. Specifically, the participants agreed with the statement relating to being able to use the information gleaned from the modules in their online mentoring and indicated that the level of engagement of the videos for both Modules I and II were better than ‘good’.

Table 3. Mean ratings (1 = strongly disagree; 4 = strongly agree) to statements about the modules that were given to both spring 2020 and fall 2020 participants. t and F statistics are provided in the last two columns (significant effects in bold and indicated by *statements)

Statement	n	Mean	Std Dev	Test Value = 3.0	Effect of Semester
*After viewing Module I, I feel more confident about ways to effectively communicate with my mentee(s)	23	3.22	0.42	t(22) = 2.472, p = 0.022, Cohen's d = 0.42	F(1,21) = 0.002, p = 0.97
*Module I provided information that I can use about effectively communicating with my mentee(s)	23	3.35	0.49	t(22) = 3.425, p = 0.002, Cohen's d = 0.49	F(1,21) = 0.196, p = 0.663
*Module I provided information that I can use about effectively communicating with any student on campus	23	3.39	0.50	t(22) = 3.761, p = 0.001, Cohen's d = 0.50	F(1,21) = 0.161, p = 0.692
*Viewing Module II has strengthened my commitment to mentoring with inclusive practices	23	3.48	0.51	t(22) = 4.491, p < 0.001, Cohen's d = 0.51	F(1,21) = 0.062, p = 0.806
*Module II provided me with strategies for working with my mentees from diverse backgrounds	23	3.35	0.49	t(22) = 3.425, p = 0.002, Cohen's d = 0.49	F(1,21) = 0.571, p = 0.458
*I would recommend Module I to a colleague	24	3.38	0.49	t(23) = 3.715, p = 0.001, Cohen's d = 0.49	F(1,21) = 0.384, p = 0.542
*I would recommend Module II to a colleague	22	3.41	0.50	t(21) = 3.813, p = 0.001, Cohen's d = 0.45	F(1,21) = 0.334, p = 0.570
I plan to make concrete changes to my mentoring approaches as a result of these modules	22	3.14	0.77	t(21) = 0.826, p = 0.418, Cohen's d = 0.77	F(1,21) = 0.180, p = 0.676
*Participating in this beta test was beneficial to my mentoring practice	22	3.41	0.50	t(21) = 3.813, p = .001, Cohen's d = 0.52	F(1,21) = 1.309, p = 0.266

Table 4. Mean ratings to statements about the modules that were given only to the fall 2020 participants. The t-statistics are provided in the last column (significant effects above 3.0 for ‘good’ are in bold and indicated by * statements).

Statement	n	Mean	Std Dev	Test Value = 3.0
<i>Please indicate the extent to which you agree or disagree with the following statements (1 = strongly disagree; 4 = strongly agree):</i>				
The facilitated discussions added to my understanding of the topics addressed in the videos	13	3.23	0.725	t(12) = 1.148, p = 0.273, Cohen’s d = 0.73
The facilitated discussions were useful to my mentoring practice	13	3.15	0.689	t(12) = 0.805, p = 0.436, Cohen’s d = 0.43
*I will be able to put the information gleaned from the modules into my ONLINE mentoring practice	13	3.38	0.506	t(12) = 2.74, p = 0.018, Cohen’s d = 0.51
<i>Please rate the quality of the following (5 = Excellent; 3 = Good; 1 = Poor)</i>				
*Engagement of videos in Module I	14	4.29	0.726	t(13) = 6.624, p < 0.001, Cohen’s d = 0.73
Usefulness of Module I handouts	14	3.43	1.158	t(13) = 1.385, p = 0.189, Cohen’s d = 1.16
*Engagement of videos in Module II	14	4.14	1.099	t(13) = 3.889, p = 0.002, Cohen’s d = 1.10
Usefulness of Module II handouts	14	3.43	1.089	t(13) = 1.472, p = 0.165, Cohen’s d = 1.158

3.4 Comments from Spring 2020 Cohort Survey

Six out of the 10 survey respondents from the spring 2020 cohort provided comments in an open field for ‘Other Comments’.

- Three participants expressed appreciation of the material/topics being presented.
- Two participants asked for additional supplemental material.
- One indicated that there was redundant information that could be reduced and that the discussion handouts could be of higher resolution (i.e., better quality).
- One participant indicated that the volume of the videos was not consistent across episodes and the closed-captioning was not accurate.
- One participant noted that the section on power relationship was critical to address because, “*while we all may realize this differential exist, we may not often think about concrete effects it has on students.*”
- One participant indicated that the “*modules on implicit bias and confronting bias were particularly meaningful to me*”.
- One participant said that s/he would e-mail the workshop facilitator specific comments and did not include them in the survey.

3.5 Comments from Fall 2020 Cohort Survey

While the spring 2020 cohort was only asked to provide any other comments in one question of the survey, the fall 2020 cohort was asked four specific open-ended questions in addition to being provided with a field for entering any other comments. When asked, ‘What suggestions or recommendations do you have for improving Module I (Communication)?’, 10 of the 14 participants provided comments.

- Three participants indicated that the videos should consist of more scenarios for discussion practice, with some suggesting the use of more subtle situations.
- Three participants also had comments relating to the discussion component of the workshop: One participant suggesting having a clear list of topics to discuss, another suggested that the meeting should include “*re-watching and discussing videos*”, and the last one wanted to invite experts from outside the university to lead the discussion of specific topics and have more time discussion among group members.
- One participant suggested spending more time on non-verbal communication, especially when communicating virtually.
- One participant indicated that the number of handouts and supplemental materials included was too much and that only a few materials should be included that do not compete with the video content.
- One participant suggested that the actors be less scripted.
- One participant indicated that s/he liked this module [I] better of the two that were assigned.

When asked, ‘What suggestions or recommendations do you have for improving Module II (Inclusive Mentoring)?’, six of the 14 participants provided comments.

- One participant indicated that, “This one was great! I really liked learning about microaggressions, I felt there was a lot of new info for me.”
- One participant wanted to have “additional resources or tools that faculty can use or read to fill in the problem areas they find.”
- Four participants made similar comments to those that they provided for Module I: more scenarios for discussion practice, use videos in the discussions, reduce amount of handouts/supplemental material, and have the role-playing appear to be less scripted.

Participants were also asked, ‘We are currently in the process of broadening and deepening our Module II discussion on how systemic racism and structural inequities may affect mentees. Additional videos are being created. Do you have any examples of topics you think would be critical to address these or other key topics to promote social justice?’ Five of the 14 participants provided suggestions for including examples of:

- Housing inequities, indicating that “*Some of our students’ families are renting properties and not homeowners. This completely changes the family’s wealth. Systemic racism plays a big role in this, when white families could buy homes and black families were excluded. The trickle down of this unfairness is huge.*”
- Research to demonstrate systemic racism exists since “*I think it’s a great way to open conversation.*”

- Fallacies associated with grit, stating: *Some of the mentors in smaller discussions expressed a lot of ideas along the lines of “if they can’t handle the work then they just need to work harder”; “I’m not hand holding since real life is out there”. I think we often times fall into that trap of believing that it’s not our problem (e.g., it’s a lack of preparation elsewhere in the pipeline).*
- Information from presentations done on campus. *“This should absolutely include statements of how/what they are doing to minimize the impacts of structural racism on faculty, staff, and students.”*
- Teaching moments: *“Before starting the last meeting one of the participants made a statement saying a group of people being stupid to the facilitator/group over zoom... Leading me to see that the practicing part is even harder to do even when you are trended and teaching what we learned to be mindful educators.”*

When asked, ‘*How can we improve the discussion sessions associated with the mentoring modules?*’, nine of the participants provided comments. In addition to the comments covered in previous questions relating to having more scenarios for discussion practice, re-watching videos as part of the discussion, allowing more group discussion, participants suggested:

- Having more breakout groups. (n = 2)
- Having more structured discussions. (n = 2)
- Having a video illustrating a moment when you mess up or how to handle a situation when someone else says something inappropriate. (n = 1)

The only substantive “other” comment provided by one participant was that the supplemental documents were dated and the content (i.e., videos with no social distancing, no masks) does not represent the current COVID 19 situation.

4 Discussion

4.1 Effectiveness of the Pilot Modules

Overall, the online AIM Program with a facilitated discussion appears to provide a useful mentor training experience. Because this unique program is intentionally inclusive to faculty and staff mentors across all disciplines, we believe that this training will ultimately benefit student success across campus. The first two modules of the AIM Program focus on communication with student mentees as well as actively promoting culturally aware and inclusive mentoring. These two modules were the first to be pilot tested based on results from the prior CSULB BUILD mentor training program. When surveyed, our BUILD trainees often rated mentors who had received mentor training more highly on mentoring skills compared to non-trained mentors; however, no differences were noted between mentor groups in key aspects of communication or respecting cultural differences [19]. In addition, when mentors in a large academic mentoring study were asked to self-assess on skills, ‘pursing strategies to improve communication’ and ‘accounting for biases and prejudices’ received the lowest ratings [23]. Incorporating culturally aware mentoring skills to mentor training programs does positively impact

awareness, beliefs, and mentoring methods to trained mentors [24], and mentor training on key communication skills can also change mentoring practices employed [17]. As a result, the learning goals for this pilot included the two modules focusing on these essential topics of communication and equity and inclusion.

Ratings provided by the participants in the current study (see Tables 3 and 4) suggest that the modules met our learning goals for the pilot project. Faculty and staff members found that the modules provided useful information on both communicating with their own mentees as well as with any student on campus. The insignificant group effect shown in Table 3 indicated that the format of the discussion (in-person vs. online) does not significantly affect participants' perception on the quality of the program. Participants also reported that the modules provided strategies to work with students from a diversity of backgrounds and that the modules strengthened the commitment of individual faculty members to mentor with inclusive practices. Assessments of mentor training programs on our campus and others suggest that training mentors does change the skill set and self-evaluated competency of mentors, and that mentors report that they will or have made changes to their mentoring practice as a result of training [19, 25].

While participants in the current study indicated that they would recommend the modules to colleagues and found that the program was beneficial to their mentoring, collectively, they did not significantly agree with the statement that they would make concrete changes in their mentoring as a result of the course. It is unclear why the response to the program would be positive and the fall 2020 participants would indicate significant agreement to the question asking them if they will put the information learned in the course to use in their online mentoring practice; yet the commitment to concrete changes for the cohorts did not reach significant agreement. It may be that the use of the phrase 'make concrete changes' suggested more of a commitment than the more typical and generic 'make changes'. It may also be that participants had learned the material but were not ready to make a specific change because the spring 2020 group had just transitioned online at the time of taking the survey, and the fall 2020 group were in the middle of the first full semester of remote instruction and mentoring.

In addition to assessing the learning goals and impact of the program, the training materials were also rated by faculty and staff in the fall 2020 cohort. Participants indicated that the videos for both modules were engaging. Comments from spring 2020 participants indicated that there were issues with consistent sound levels or closed captioning errors were addressed in episode revisions that took place between cohorts, and these comments were not observed in fall 2020.

The participants of the fall 2020 cohort did not significantly agree with statements regarding the usefulness of both the facilitated discussion and the handouts provided by the Faculty Center for the discussion sessions for either Module I or Module II. In the evaluation session, participants in the fall 2020 semester commented that aligning the discussion to the videos would be preferred to using handouts with additional case studies or information not linked directly with the videos. Relating the discussion directly to the videos may prove to be beneficial in the learning process, as when the viewing data were assessed, participants tended to watch the videos back-to-back, often in one viewing session, in close proximity to the discussion day (see Figs. 1 and 2). In addition, while the number of participants who watched the videos 'on time' declined among those in

the fall 2020 cohort, a few of the faculty and staff in the spring 2020 cohort also did not complete the viewing as requested, which was prior to the shutdown induced by the COVID-19 pandemic. Because the total duration of the videos in the modules is under one hour (50 min total for Module I; 40 min total for Module II), watching an entire module right before the discussion does not meet the 3-h criteria for ‘binge-watching’. However, because binge watching does reduce both retention and enjoyment of the media content [26], the tendency for faculty to watch all episodes of one module over a short period of time may impact what they learn and retain, and may have contributed to the quiz scores being around 83% rather than closer to 100%. While this average quiz score is similar to scores obtained in other studies [27], the quizzes were short and were focused on lower-level retention questions; so, it may be that watching the episodes in succession reduced overall comprehension or retention.

4.2 Lessons Learned and Recommendations for Future Implementations

Allowing faculty to fully engage in the module on their schedule is one benefit of self-paced faculty development courses [27]; however multiple benefits can be derived from taking part in a live discussion group or having other face-to-face interaction that complements online learning material and reduces the steep attrition observed in voluntary online training modules [28–30]. Once the entire AIM/Beach Mentor Program is rolled out, comparing future quiz scores from faculty members who opt for the self-paced option as compared to those who select the facilitated discussion may elucidate if the pressure to watch the videos ‘on time’ to meet the discussion deadline reduces retention about the material presented.

The participants in the fall 2020 semester also commented on the number and variety of supplementary resources, including weblinks and journal articles related to the episode topics, which were provided on the learning management system. The amount of available supplemental material provided may have deterred the fall 2020 participants from actually looking at the material. Access of the supplementary resources differed by semester, with a wider range of supplemental materials accessed and a lower average of number of materials accessed for Module II in the fall 2020 as compared to spring 2020 cohort. In general, comments from some of the fall 2020 participants indicated a larger workload than did most participants in the spring 2020 semester, which may speak to the perception of online work as compared to in-person format, in addition to the additional responsibilities incurred by participants during the 2020 pandemic. To address the comments of participants, we are implementing another pilot in spring 2021 that includes streamlined handouts and a discussion leader’s manual that are interconnected with the videos. Other lessons learned centered around the look of individuals in stock photos; spring 2020 participants found the individuals in business suits distracting. Based on this feedback, these images were replaced to better reflect a university atmosphere and these types of comments did not resurface in the fall 2020 pilot.

While both cohorts included real-time discussion sessions (face-to-face in spring 2020 or via Zoom in fall 2020), the introduction of topics and ideas occurred primarily through viewing the videos embedded within CSULB’s learning management system. Unlike similar participant ratings of the effectiveness of the two modules, there were differences in the number of episodes viewed, with all nine of Module I episodes on

communication with mentees viewed; however only an average of 5.7 out of the 6 episodes viewed for inclusive mentoring in Module II (see Table 4). Sessions for both cohorts were intentionally held in the middle of the semester so the program did not overlap with either the first weeks of instruction or final exams. Attrition in voluntary online training programs has been attributed to lack of professional and personal time, as opposed to a lack of interest in the material [30], and it may be that as AIM/Beach Mentor course continued, participants were more pressed for time. Completion of online training is also contingent upon the need or perceived value of the course by faculty members [31], making advertising of the program important to achieve buy-in by key stakeholders on campus. The perceived benefits of the materials are also critical factors to consider for the roll out of this mentor training program. Although the drop-off in viewing activity for the episodes was limited in the two pilots, it will be an important element for future assessment when all six AIM/Beach Mentor modules are included as part of the program.

5 Conclusion

Mentoring during a pandemic is obviously just as critical, if not more important than mentoring during a typical academic year. The practices needed for inclusive mentoring remained the same prior to and during the COVID-19 pandemic; however, mentors and mentees were more likely to feel overwhelmed and overworked during this global medical and economic disaster [32]. The present study compares two cohorts, where all learning materials were presented in online modules, but one cohort had the discussions take place in an in-person format prior to the campus shutdown in March 2020 and the other in a Zoom format during the fall 2020 semester. For the latter platform, faculty and staff members participating had to navigate a rapidly changing and demanding environment brought about by remote or alternative modes of teaching, advising and/or mentoring. Interestingly, there were no significant differences between the spring 2020 and fall 2020 cohort in terms of ratings given to the program or its effectiveness; however, differences in viewing behavior for both video episodes as well as the supplemental materials declined in fall 2020. Because mentor training can refine mentoring practices and induce change in how students are mentored [25], it was important to continue the program despite the campus closure. Despite the serious situation, results from the present study suggest that this choice to continue mentor training was useful to participants and provided key skills to help the participants work with students in the future. These pilots also allowed for the refinement of the program, notably connecting the discussion and handouts to the videos, prior to the full series of modules being debuted to the campus. As the full six-module, 35-episode AIM/Beach Mentor Program is introduced to CSULB, future studies are planned to continue to gauge its usefulness to a broader spectrum of both faculty and staff members and improve its effectiveness in helping mentors interact with students in a more equitable and inclusive manner.

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