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THE EFFECTIVENESS OF ONLINE VIDEO-BASED TRAINING METHODS

Chloe L. Wood

A THESIS

Submitted in partial fulfillment of the requirements for the degree of Master of Arts in Industrial and Organizational Psychology to The Graduate School of The University of Alabama in Huntsville May 2024

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Abstract

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Chloe L. Wood

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Arts

Industrial and Organizational Psychology

The University of Alabama in Huntsville May 2024

Employee training is considered critical for organization success legitimacy. The present study investigated the effects of four different online training methods on post-test recall. Student participants from UAH viewed one of four types of videos covering diversity, equity, and inclusion concepts--generative scenarios in which participants generated a label for what the scenarios covered, descriptive scenarios that included a label, a control with scenarios, and a control with no scenarios. Scenarios involved school-based and work-based examples to assess how the relevance of context for student non-workers versus student-workers impacted recall. A repeated measures ANOVA revealed that across all four conditions participants showed improved performance after watching the DEI training videos; however, there were no differences between training methods and there were no significant differences in the recall performance of work-and school-based scenarios between student workers and student non-workers. We can conclude from our research that video-based training methods enhanced learning.

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List of Symbols

Symbol ANOVA	Description Analysis of Variance
DEI	Diversity, Equity, Inclusion
F	F Statistic
M	Mean
$\eta_p^{\ 2}$	Partial Eta Squared
p	Probability of obtaining results
SD	Standard Deviation
SPSS	Statistical Package for Social Sciences

Chapter 1. Introduction

1.1 Employee Training

Employee training is considered critical for organization success and is frequently studied within human resource practice. Employee training is not only motivated by the search for efficiency, but also the search for organizational legitimacy. Both competitive and institutional pressures are rationales for employee training, with the percentage of trained employees having a positive and significant influence on organizational performance (Esteban-Lloret *et al.*, 2016). Subjects that receive training contribute more to team effort, and previous research has indicated a positive relationship between learned skills and cooperative behavior (van Gerwen *et al.*, 2018).

From an individual perspective, there are multiple factors that influence training motivation. Training motivation is the intensity and persistence of learning-directed behavior within a training context (Colquitt *et al.*, 2000). Within a meta-analytic path analysis of training motivation, Colquitt and colleagues (2000) indicated several predictors of training motivation which included individual characteristics of locus of control, conscientiousness, cognitive ability, self-efficacy, and job involvement. Colquitt *et al.*'s findings suggested that individuals can have several different motivations for employee training which should be considered when investigating the effectiveness of training materials. Organizations also have multiple motivations for employee training, and it is considered essential for organizational performance and legitimacy. When

investigating the effectiveness of training, it is important to consider both organizational and individual motivations.

1.2 Diversity, Equity, and Inclusion Training

Training on Diversity, Equity, and Inclusion (DEI) has become common within organizations to improve employee-related outcomes, increase awareness of the self, and enhance customer experiences. Organizations currently face the issue of workplace incivility where members of the workplace adopt an unconscious bias that results in antisocial behavior and bias against members of undervalued social groups (Cortina, 2008). In a previous study on modern discrimination, Cortina indicated that workplace discrimination can occur through a person or situational level which ultimately results in unfair employment discrimination. Person level workplace discrimination is often unconscious and places people into social categories which influence stereotyping. In terms of situational workplace discrimination, organizations often play a role in inhibiting discrimination through policies, leadership, and group norms. Within previous research on the impact of diversity training, Thakur and Dhar (2022) suggested that diversity training impacted internal and external employee-related outcomes by increasing employees' awareness of self and others. DEI training can also motivate individuals to change certain behaviors and attitudes towards different people which may result in an increase of comfortability to work with a diverse group of people.

Interventions, such as training and development, can maximize the value of diversity in the workplace. In an investigation of discrimination interventions, Odeh *et al.* (2017) suggested that when training and development methods express the strengths of diversity in the workplace and provide examples of the consequences of discrimination,

training positively impacts employee-related outcomes. To effectively administer DEI training within organizations, training methods can implement relevant scenarios to positively impact transfer and convey that everyone has biases that impact decision making (Gassam & Salter, 2020). Gassam and Salter suggested that modern discrimination affects organizations and employees negatively through increased levels of job stress, dissatisfaction, cognitive distraction, and job turnover. Organizations can implement DEI training to help improve both organizational outcomes and employee-related outcomes.

1.3 Effectiveness of Web-Based Training

Training and development are crucial for organizations to promote behavioral skills and improve employees' performance at work. With the widespread availability of technologies and the goal of reducing training costs, organizations have shifted to distance online training as an alternative to face-to-face training (Bedwell & Salas, 2010). Online training has many advantages which include affordability, flexibility, and the ability for trainees to learn at their own pace. While there are many benefits to online training, organizations need to consider personal factors that affect transfer and learning strategies.

The self-regulatory learning theory suggests that individuals intentionally and strategically adapt their learning activities to achieve their learning goals (DeRouin *et al.*, 2004; Martins *et al.*, 2019). Self-regulatory strategies involve control of concentration and motivation, which is critical for online learning because trainees complete training individually without the influence of others. Martins *et al.* investigated the impact of online training on behavioral transfer and job performance and found that personal

factors such as life habits, motivation, and individual goals affect the transfer of learning. The results from Martins *et al.* demonstrated that practical application learning strategies, trainees' reactions to training, and motivational control were significant predictors of behavioral performance and job performance. To achieve positive transfer for online training, the training design must consider successful strategies and facilitate these strategies through training planning, exercises, scenarios, and assignments.

When examining online training effectiveness, it is essential to consider the trainees' characteristics and perceptions of the training design and material. Within previous research on the effectiveness of online learning, Johnson and colleagues (2009) investigated how individual learner characteristics, such as learners' perceptions of training utility and level of metacognitive activity, could impact transfer and performance. Utility judgments are defined as trainees' judgment that the presented training provides knowledge or skills which can be transferred into work. These judgments can be used as an indicator of transfer and performance. Metacognitive activity is an individual's awareness, knowledge, and regulation of cognitive processes; the greater their metacognitive activity, the more an individual is able to monitor learning and make adjustments to their learning behavior. Johnson *et al.* demonstrated that metacognitive activity positively related to utility judgments and training satisfaction, which can ultimately have an impact on performance.

When designing online training lessons, organizations can maximize effectiveness by ensuring the learned skills can be transferred into work performance. The expectancy theory suggests that individuals will be more motivated to perform when they believe that their efforts will be rewarded (DeRouin *et al.* 2004). In relation to the

expectancy theory and increasing individuals' motivation to perform, self-regulation strategies and metacognition can be enhanced through giving trainees the tools to understand their skill development. To optimize online training effectiveness, DeRouin *et al.* suggested that providing trainees with clear learning objectives and evaluating if instructional goals are met can help trainees understand skill development and recognize how the training will reward performance in the workplace. Online training effectiveness can also be affected by dispositional employability. Dispositional employability has five underlying factors -- openness to changes at work, career motivation, work resilience, work and career proactivity, optimism and engagement at work, and work identity (Torrent-Sellens *et al.* 2016). When evaluating the effectiveness of online training, organizations must consider individual characteristics and relate the training materials to skills that can reward performance in the workplace.

1.4 Web-Based Training Implications

With considerations of cost reduction and time efficiency, organizations have shifted from face-to-face training to web-based training; however, it is important for organizations to provide web-based methods that transfer behavioral skills to the workplace. A web-based training method that is often used in organizations are video-based interventions. Video-based interventions include video models with voiceover narrations of the content and have the advantages of ensuring training content is delivered as intended and in a consistent manner (Erath *et al.*, 2021). To implement behavioral skills in video-based training, Erath *et al.* proposed a three-step model of providing the trainee with instructions on the target skill, modeling the target skill for the trainee, and providing a prompt to the trainee to practice the target skill. Video-based interventions

can increase the transfer of behavioral skills through interpolated testing. Interpolated testing is a learning technique that quizzes the learner intermittently during the process of learning (Okano *et al.*, 2018). Research suggests that interpolating questions in training motivates trainees to focus on the material and increases long term retention (Szpunar *et al.*, 2013). Implications to improve video-based training involve providing clear instructions of the target skill and interpolating questions to provide ways for trainees to practice the target skill.

1.5 Scenario-Based Training

Within web-based training methods, scenarios are often used to improve the outcomes of training and development procedures. Scenario-based training presents learners with an interactive story that places them in a specific environment that resembles the context in which a problem would occur (Moats *et al.*, 2008). Providing scenarios to trainees has the advantage of capturing workplace situations by presenting real job demands to promote transfer while also influencing trainees' engagement. Cox and colleagues (2017) found that incorporating scenarios within training yielded greater retention of knowledge and a greater ability to apply acquired knowledge to novel situations. Scenario-based training has been found to positively influence transfer and performance by capturing authentic situations that can be applied to new information.

In relation to scenario-based learning, the situated learning theory suggests that learning is a function of the activity and context in which it occurs, with authentic experiences being a critical component of the learning process (Klassen *et al.*, 2021). Scenario-based learning engages participants in interactive scenarios that present authentic workplace experiences followed by questions of the possible course of action.

Previous research has indicated that presenting scenarios that are authentic to the trainee's real experiences and possess self-referent encoding will increase transfer, self-efficacy, and preparedness (Cox *et al.*, 2017). In a previous study on video-based training with the use of scenarios, Ruggs and McGonagle (2022) found that short video interventions with implemented scenarios improved knowledge and awareness about workplace situations. When designing training materials, it is important to consider implementing scenario-based learning that relates to trainees' own experiences to accurately influence transfer and performance. Including self-referent encoding scenarios positively influences performance outcomes and the transfer of skills in the workplace.

1.6 Self-Generated Learning

When designing training and development materials is it essential to consider the learning process and how to design training to positively influence long-term retention and transfer. Within the cognitive science literature, previous research has found that intermittent training tests following the introduction of new information may be an effective way to promote learning and long-term retention (Woods *et al.*, 2021). The phenomenon that is related to intermittent training tests is known as the testing effect; the testing effect suggests that asking questions or labeling new information deepens encoding and improves recall more than a study strategy of repetition or re-reading the material (Woods *et al.*, 2021). Generative learning involves creating and applying new skills where learners link existing knowledge to practice questions. Online technologies are useful for generative learning in which online methods can implement practice questions that are associated with the newly acquired knowledge (London & Hall, 2011). In contrast to generative learning, descriptive learning focuses on the instructor telling the

trainee what they need to know by relaying standard knowledge, skills, information, and policies. To ensure adequate transfer and performance, training methods can intertwine descriptive and generative learning by having learners participate in online training to obtain knowledge and skills (London & Hall 2011).

Within scenario-based training, transfer may be more likely to occur when the scenario labels are self-generated. Self-generated labels can be related to the testing effect and can include asking questions regarding content or generating a label of a scenario. In the development of training methods, it is important to consider both scenario-based training and self-generated material to yield greater retention from the trainees (Cox *et al.*, 2017; Woods *et al.*, 2021).

1.7 Hypotheses

Given the expectation that generating a label for each scenario requires deeper processing than being provided a label and that both are better than not viewing a label at all, we hypothesized that generative scenarios would enhance post-test performance more than descriptive scenarios or scenarios with no label (Woods *et al.*, 2021). Given the expectation that providing a scenario is better than not viewing a scenario at all, we hypothesized that viewing relevant scenarios would improve post-test performance more than not viewing a scenario (Cox *et al.*, 2017). Given the expectation that self-referent encoding should yield better memory of the scenarios than scenarios with no personal meaning to participants, we expected students to recall more scenarios in a school-based setting than those in a work-place setting. If student participants were also to work, they may be better able to relate to the workplace setting than students who do not work. Thus, we also expected that scenarios in a work-place setting would be better remembered by

student-workers than by full-time students (*i.e.*, students who do not also work while going to school).

Chapter 2. Method

2.1 Participants

A total of 135 students from The University of Alabama in Huntsville introductory psychology course participant pool participated in the study. Of these, 32 participants failed the manipulation check question in which they were asked to indicate what type of training video they viewed; however, analyses including and excluding these 32 participants yielded the same pattern of results. Thus, we report analyses with all the participants included to have greater statistical power.

The mean age of participants was 19.9, SD = 3.03. In terms of participant gender, there were 79 (58.5%) women, 50 (37%) men, 3 (2.2%) non-binary, 1 (.74%) bigender, 1 (.74%) demi-girl, and 1 (.74%) participant who did not specify sex. Participants reported their race/ethnicity as follows: 98 (72.6%) participants were White, 10 (7.4%) were Black or African American, 8 (5.9%) were Asian, 8 (5.9%) were Hispanic, 2 (1.5%) were Latino, 2 (1.5%) were Middle Eastern, and 7 (5.2%) were two or more races.

Table 2.1 Participants' Mean Age Within Each Condition.

Training Method	N	M_{Age}	SD
Control Scenarios	35	20.7	4.63
Control NS	39	20.1	3.01
Descriptive	31	19.6	1.39
Generative	30	19.1	1.40

 Table 2.2 Participants' Sex Within Each Condition.

Sex	Training Method	Counts	% of Total	Cumulative %
Female	Control Scenarios	21	15.6%	15.6%
	Control NS	26	19.3%	34.8%
	Descriptive	18	13.3%	48.1%
	Generative	14	10.4%	58.5%
Male	Control Scenarios	13	9.6%	68.1%
	Control NS	12	8.9%	77.0%
	Descriptive	12	8.9%	85.9%
	Generative	13	9.6%	95.6%
Non-Binary	Control Scenarios	0	0.0%	95.6%
	Control NS	1	0.7%	96.3%
	Descriptive	0	0.0%	96.3%
	Generative	2	1.5%	97.8%
Bigender	Control Scenarios	0	0.0%	97.8%
	Control NS	0	0.0%	97.8%
	Descriptive	1	0.7%	98.5%
	Generative	0	0.0%	98.5%
Demi-Girl	Control Scenarios	1	0.7%	99.3
	Control NS	0	0.0%	99.3%
	Descriptive	0	0.0%	99.3%
	Generative	0	0.0%	99.3%
Did Not Specify	Control Scenarios	0	0.0%	99.3%
	Control NS	0	0.0%	99.3%
	Descriptive	0	0.0%	99.3
	Generative	1	0.7%	100.0%

Table 2.3 Participants' Race Within Each Condition.

Race	Training Method	Counts	% of Total	Cumulative %
Two or More	Control Scenarios	3	2.2%	2.2%
	Control NS	3	2.2%	4.4%
	Descriptive	0	0.0%	4.4%
	Generative	1	0.7%	5.2%
White	Control Scenarios	23	17.0%	22.2%
	Control NS	32	23.7%	45.9%
	Descriptive	25	18.5%	64.4%
	Generative	18	13.3%	77.8%
Asian	Control Scenarios	1	0.7%	78.5%
	Control NS	2	1.5%	80.0%
	Descriptive	0	0.0%	80.0%
	Generative	5	3.7%	83.75
Hispanic	Control Scenarios	3	2.2%	85.9%
	Control NS	1	0.7%	86.7%
	Descriptive	1	0.7%	87.4%
	Generative	3	2.2%	89.6%
Latino	Control Scenarios	0	0.0%	89.6%
	Control NS	0	0.0%	89.6%
	Descriptive	0	0.0%	89.6%
	Generative	2	1.5%	91.1%
Black or African American	Control Scenarios	4	3.0%	94.1%
	Control NS	1	0.7%	94.8%
	Descriptive	4	3.0%	97.8%
	Generative	1	0.7%	98.5%
Middle Eastern	Control Scenarios	1	0.7%	99.3%
	Control NS	0	0.0%	99.3%
	Descriptive	1	0.7%	100.0%
	Generative	0	0.0%	100.0%

The study was approved by the IRB (EE202358) and participants typed their name to consent to participate (see Appendix A for IRB approval letter.)

2.2 Design

This study used a 2 x 4 (Setting by Training Method) mixed subjects design with Setting as a within subjects factor and Training Method manipulated between subjects.

Setting was manipulated to present school or workplace scenarios. School setting scenarios contained DEI scenarios that occur in a school environment. Within the workplace setting, the scenarios were related to DEI issues that occur in a workplace environment. The between subjects factor of training method had four conditions—generative scenarios, descriptive scenarios, a control group that viewed scenarios with no label, and a second control group with no scenarios. Generative scenarios contained a video with integrated DEI scenarios that required participants to label what content the scenario was targeting. Descriptive scenarios contained a video with integrated DEI scenarios that provided the label the scenario was targeting. The training method for participants in the control group with scenarios contained a video with integrated DEI scenarios with no label. The training method for participants in the control group with no scenarios contained a DEI content training video with no scenarios. The dependent variable was post-test performance scores measuring the percentage of correct answers.

2.3 Materials

A pre-task questionnaire was given to the participants with questions regarding participant demographics (*e.g.*, age, race/ethnicity), previous work experience, previous experience with DEI training, and their thoughts regarding DEI. The pre-task questionnaire allowed evaluation of participants' previous knowledge of DEI and acted as a baseline (see Appendix B).

As noted, there were four conditions to which the participants were randomly assigned. All training videos were created using Synthesia Studio software that creates training videos with the features of AI avatar voices and viewer interactions. The first condition of generative scenarios involved a 16-min and 11 second DEI training video

with scenarios that required participants to generate a label by writing their answer on a piece of paper for each scenario. The descriptive condition involved an 11-min and 45 second DEI training video with labeled scenarios that did not require participant interaction. The control condition that viewed scenarios with no label involved an 11-min and two second DEI training video with scenarios that did not require participant interaction. The second control condition involved a 6-min and 14 second DEI training video without scenarios or participant interaction. The scenarios used in the training video consisted of a DEI interactive story that was written in a specific environment (either work or school) that resembled the context in which a problem would occur.

The DEI training video covered several concepts that are related to diversity, equity, and inclusion. The concepts covered in the training video included stereotypes, prejudice, explicit attitudes/bias, implicit attitudes/bias, microaggression, macroaggression, stereotype threat, oppression, intersectionality, age discrimination, sexual harassment, religious discrimination, sexual orientation discrimination, disability discrimination, status of a parent discrimination, and resolving diversity conflict (see Appendix C). Within the three scenario conditions, the concepts of stereotypes, prejudice, explicit attitudes/bias, implicit attitudes/bias, microaggression, macroaggression, age discrimination, sexual harassment, religious discrimination, sexual orientation discrimination, disability discrimination, and status of a parent discrimination included a scenario in the presentation of the training video (see Appendix C). The concepts of stereotype threat, oppression, intersectionality, and resolving diversity conflict did not have scenarios in the presented training video. The presented scenarios in the training

video and the testing were presented as a school-based setting or a work-place setting (see Appendices C, D and E).

A pilot test was conducted to examine the materials of the pre-test, the training methods, and the post-test. Four student participants completed the pilot test and indicated that the questions and training materials were interpretable, and instructions were clear. After examining the results of the pilot test no major changes were made to the materials; however, there were some grammatical and phrasing edits completed before administering the study.

At the end of training, each condition included a distractor task unrelated to DEI to ensure the training materials were not stored in participants' short-term memory. The distractor task for the three conditions with scenarios involved unscrambling state names (e.g. BALAAMA, RLDAOFI, etc.; see Appendix F). The distractor task for the control condition without scenarios involved reading DEI short stories that were unrelated to the training content (see Appendix G). The length of the distractor task was manipulated in an attempt to ensure equal training times across conditions (e.g., the longest distractor task was used in the control condition and the shortest distractor task was used for the conditions with scenarios).

There was a post-test where participants were asked to recall the information learned in the training. The post-test consisted of multiple-choice questions regarding concepts from the training video along with scenario-based questions. There were three school setting and three workplace setting scenario-based questions that related to the concepts of stereotypes, stereotype threat, implicit attitude/bias, disability discrimination, and sexual orientation discrimination (see Appendices C and H). There were two near transfer

questions on the post-test, where the presentation and testing scenario settings matched (e.g., both in school settings). There were also two far transfer questions on the test where the presentation setting and testing setting were different (e.g., school setting for presentation, but work setting at test). Lastly, there was a post-task questionnaire which asked the participants about their thoughts regarding the training method (see Appendix I). Qualtrics was used to collect consent, administer the pre-task questionnaire, training materials, and the post-test, and present the debriefing form.

2.4 Procedure

The study was conducted online via Qualtrics. Participants read a consent form and indicated if they were at least 18 years of age. If the participant indicated that they were of age (i.e., 18 or older) and provided electronic consent, the session began. The participant was asked to complete the pre-task questionnaire that took roughly five minutes to complete. The pre-task questionnaire was used to evaluate the participants' level of knowledge before training. The participants then were randomly assigned to one of the four video conditions based on their month of birth. If the participant was assigned to the control video with no scenarios, they were presented a video of concepts regarding DEI with no presented scenarios. If the participant was assigned to the control video with scenarios, they were presented a video of DEI concepts with integrated scenarios with no label provided or asked for. If the participant was assigned to the descriptive scenario training method, this included a video of DEI concepts with integrated descriptive scenarios where the subject was told what concept the scenario was targeting. If the participant was assigned to the generative scenario group, this included a video of DEI concepts with integrated generative scenarios where the subject was asked to specify

what DEI concept the scenario was targeting. For the conditions with integrated scenarios, there were 12 total scenarios presented in the DEI training video. The scenarios were either presented in a school-based or work-based environment and were counterbalanced.

After the participants completed the DEI training method, the participants were required to complete a distractor task that either included having the participants unscramble state names or read two DEI short stories. The distractor tasks of unscrambling state names and reading DEI stories took 2-min and 5 min, respectively. Through a programming glitch, the distractor tasks did not equate overall time between the conditions (see Figure 2.1). Given that the integration of scenarios in the training methods equated to more time, training methods with integrated scenarios (generative, descriptive, and control with scenarios) were paired with the 2-min distractor task of unscrambling state names and the training method without integrated scenarios (control no scenarios) was paired with the 5-min distractor task of reading DEI short stories.

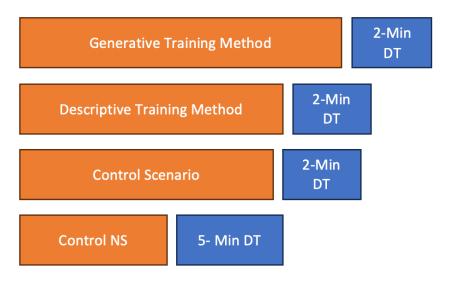


Figure 2.1 Distractor Times Across Training Methods.

Note: DT (Distractor Task)

After the distractor task, the participants were asked to complete a post-test where they were asked to recall information regarding the DEI information covered in the training video. The post-test took approximately 10 minutes to complete. After the post-test, the participants were asked to complete a post-task questionnaire that included questions regarding perceptions of the training method. After the post-task questionnaire, the participants were debriefed and dismissed. The total length of the experiment was approximately 45 minutes.

2.5 Statistics

The dependent variable of post-test recall scores was calculated by averaging correct answers as a function of setting and training method. A repeated measures ANOVA was conducted to measure post-test performance differences as a function of setting and training method. The dependent variables were analyzed through SPSS using an alpha level of p < .05 to determine if the results were significant. The data analyses were

conducted with and without the participants that failed the manipulation check, but all results presented below are based on the entire sample.

Chapter 3. Results

3.1 Participants Work Status and DEI Exposure

Because we wished to examine whether students' work status or prior exposure to DEI would impact their memory for the training materials, we began by evaluating students' work status. We found that participants varied in their reported work status. As may be seen in Table 3.1, we grouped participants' current work status into three categories—currently working, not currently working but has had a job in the past 6 months, and not currently working and has not had a job in the past 6 months. When asked questions regarding work and school status, 57% of our sample was classified as a student worker and 43% of were considered a non-working student (see Table 3.2). A Chi Square Goodness of Fit was conducted for the participants' recorded time working, $X^2(3, 135) = 20.5$, p < .001. Participants recorded work time ranged from less than a year to more than 2 years (see Figure 3.1). Regarding participants' exposure to diversity, equity, and inclusion, 84.44% of participants reported that they had heard of DEI before this study (see Table 3.3). Unfortunately, 65 (48.1%) participants reported that they had experienced discrimination in the past.

 Table 3.1 Participants' Current Work Status.

Work Status	Count	% of Total
Currently Working	71	59.6%
Not Currently Working but has had Job in Past 6 Months	36	26.7%
Not Currently Working and has not had Job in Past 6 Months	28	20.7%

Table 3.2 Participants' Current Student and Work Status.

Status	Count	% of Total
Full time student, full time working	9	6.7%
Full time student, part time working	63	46.7%
Not currently working, full time student	57	42.2%
Not currently working, part time student	1	0.7%
Part time student, full time working	2	1.5%
Part time student, part time working	3	2.2%

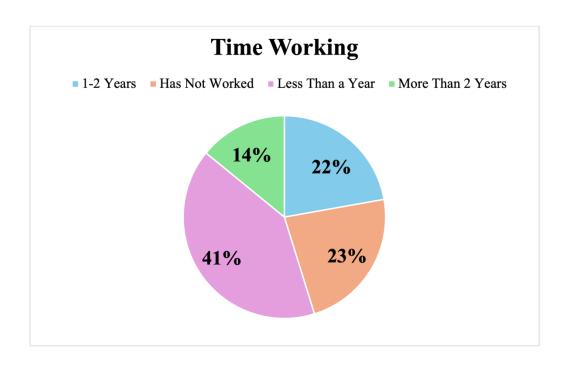


Figure 3.1 Percentages of Participants' Time Working.

 Table 3.3 Exposure to DEI Within Each Training Method.

Exposure to DEI	Training Method	N	% of Total	Cumulative %
Heard of DEI	Control No Scenario	34	25.2%	40.7%
	Control Scenario	32	23.7%	64.4%
	Descriptive	24	17.8%	82.2%
	Generative	24	17.8	100.0%
Not Heard of DEI	Control No Scenario	5	3.7%	3.7%
	Control Scenario	3	2.2%	5.9%
	Descriptive	7	5.2%	11.1%
	Generative	6	4.4%	15.6%

3.2 Performance

A repeated measures ANOVA was conducted examining pre-test and post-test performance as a function of training condition. This analysis yielded a main effect of time; participant's performance significantly increased after the DEI training, F(1, 131) = 22.85, p < .001, $\eta_p^2 = .15$. There is sufficient evidence to conclude that the DEI training videos enhanced participants' understanding of the DEI concepts, relative to their baseline understanding (see Figure 3.2.).

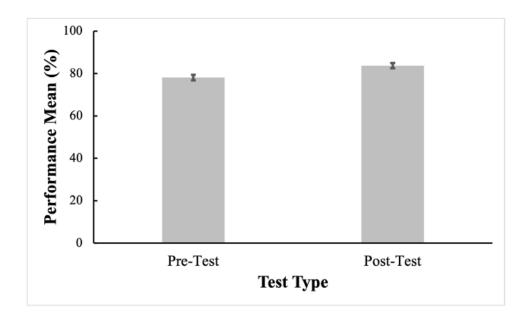


Figure 3.2 Participants' Mean Performance.

The main effect of training method was not statistically significant, F(3, 131) = 0.19, p = 0.90, $\eta_p^2 = .004$, nor was the interaction of time and training method, F(3, 131) = .09, p = 0.97, $\eta_p^2 = .002$. There is insufficient evidence to conclude that performance differed between the training methods of generative, descriptive, control scenarios, and control no scenarios or that differences existed from pre-to post-test across methods. As

may be seen in Figure 3.3, all four conditions performed similarly on the pre-test, and showed similar performance improvements on the post-test.

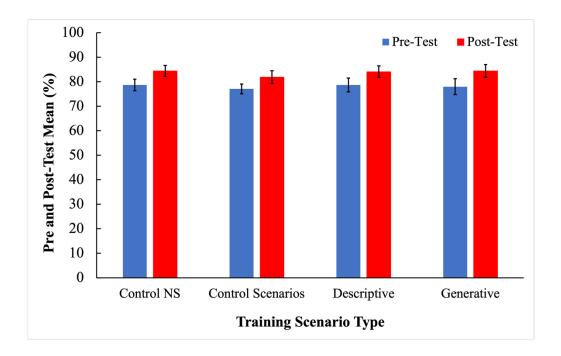


Figure 3.3 Pre-Test and Post-Test Mean Performance Percentage.

A repeated measures ANOVA was conducted examining correct recall of work and school-based scenarios as a function training method. The analysis yielded a main effect of scenario setting; participants' performance on work-based scenarios was significantly higher than participants' performance on school-based scenarios, F(1, 133) = 4.45, p = .04, $\eta_p^2 = .03$ (see Figure 3.4). The interaction between scenario setting and training method was statistically insignificant, F(1, 131) = 0.24, p = .87, $\eta_p^2 = .01$. As can be seen in Figure 3.5, participants in the generative, descriptive, control scenarios, and control no scenarios training methods performed similarly on the work and school-based

scenarios, indicating that the training method did not differentially affect the likelihood of recalling either type of scenario.

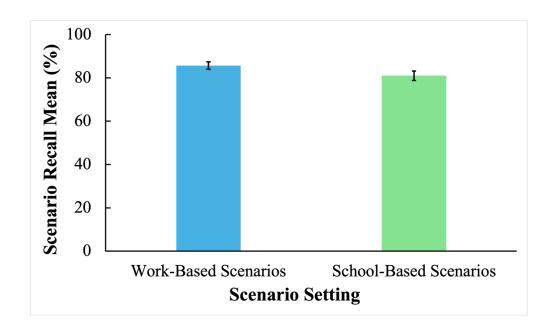


Figure 3.4 Scenario Setting Mean Percentage.

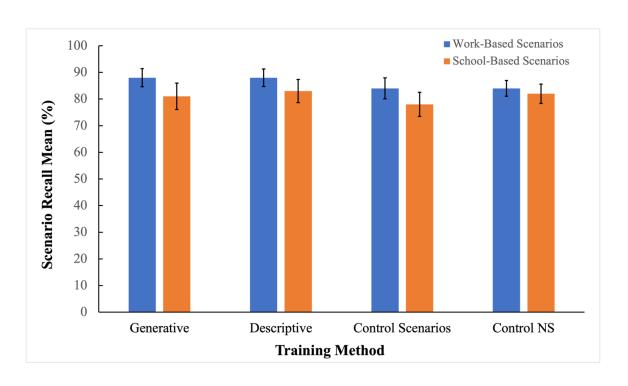


Figure 3.5 Work and School-Based Scenario Mean Performance.

A repeated measures ANOVA was conducted examining correct recall of workand school-based scenarios as a function of current work status. The analysis yielded a main effect of scenario setting; participants' performance on work-based scenarios was significantly higher than participants' performance on school-based scenarios, F(1, 133) = 4.11, p = .05, $\eta_p^2 = .03$. Thus, contrary to our expectations, participants were better able to recall the information presented in work-based scenarios than in school-based scenarios despite everyone in our sample being a student (see Figure 3.6).

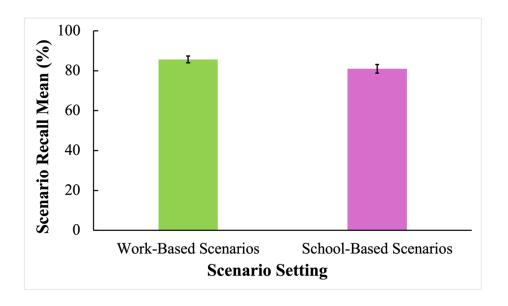


Figure 3.6 Scenario Performance Mean Percentage.

The main effect of current work status was not statistically significant, F(1, 133) = 0.10, p = .752, $\eta_p^2 = .001$, nor was the interaction of scenario setting and current work status, F(1, 133) = .001, p = .97, $\eta_p^2 = .00$. Student workers and student non-workers performed similarly on the work and school-based scenarios indicating that being a

student worker did not differentially affect the likelihood of recalling either type of scenario, relative to students who were not currently working (see Figure 3.7).

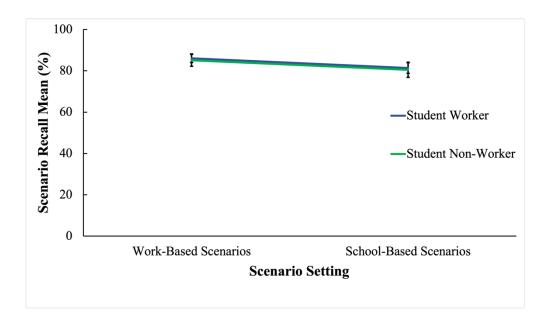


Figure 3.7 Student Worker and Student Non-Worker Scenario Performance Mean.

3.3 Post-Task Questionnaire

As noted, the post-task questionnaire asked for participants' opinions about the training. Participants reported relatively high satisfaction with the training methods. Within the post-task questionnaire, participants were asked seven questions using a 5-point Likert scale (1 = strongly agree; 5 = strongly disagree). The post-task questions can be seen in Appendix G. Participants' average rating for question one, "the scenarios improved my learning" was M = 1.79, SD = .96. The average rating for the statement, "scenarios that were related to a school environment improved my learning" was M = 1.99, SD = .93. For question three, "scenarios that were related to a work environment

improved my learning", participants' average rating was M=1.98. SD=.934. Participants' average rating for question four, "Overall, I felt that I could relate to the school environment videos better than the work environment videos" was M=2.44, SD=1.07. The average rating for question five, "overall, do you think this online training video helped you learn" was M=2.00, SD=1.06. Participants' average rating for question six, "Overall, I am satisfied with this training method" was M=2.01, SD=1.09. For question seven, "Overall, I am satisfied with the content for the training", participants' average rating was M=1.84, SD=1.04. The average Likert scale means split by training method can be found in Table 3.4.

Table 3.4 Average Agreement with Post Test Questions.

Training Method	Ç	2 1	Ç	22	Q	23	Q	<u>)</u> 4	Ç	25	Ç	<u>)</u> 6	Q	27
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Generative (<i>n</i> = 30)	1.83	.747	1.87	.819	1.97	.765	2.37	1.25	2.00	1.11	1.70	.988	1.67	.959
Descriptive (<i>n</i> = 31)	1.81	1.17	1.94	1.12	2.00	1.06	2.42	1.03	1.94	1.09	2.00	1.00	1.84	1.00
Control Scenarios (n= 35)	1.86	1.17	2.11	1.02	2.14	1.09	2.46	1.17	2.00	1.14	2.00	1.26	1.86	1.24
Control NS (n=39)	1.69	.694	2.00	.761	1.82	.790	2.49	.885	2.05	.944	2.26	1.04	1.97	.959

Table Note:

Question Number	Question
Q1	The scenarios improved my learning.

Q2	Scenarios that were related to a school environment improved my learning.
Q3	Scenarios that were related to a work environment improved my learning.
Q4	Overall, I felt that I could relate to the school environment videos better than the work environment videos.
Q5	Overall, do you think this online training video helped you learn?
Q6	Overall, I am satisfied with this training method.
Q7	Overall, I am satisfied with the content for the training.

Chapter 4. Discussion

Within this study we examined whether DEI training videos impacted participants' understanding of DEI issues, as measured by their recall performance. Of interest was whether participants would demonstrate better understanding of DEI issues after exposure to one of our four training conditions than at baseline and whether recall would differ as a function of training condition. The results revealed that participants' post-test performance was higher than the pre-test performance in all four training conditions, indicating that the online training videos improved learning. Critically, however, no differences were found in recall between the training methods of generative, descriptive, control scenarios, and control no scenarios.

The participants' performance on the pre-test was higher than expected which indicated that most student participants had a high baseline knowledge of DEI content.

DEI content and issues have been a main topic within organizations and higher education because diversity has been found to improve innovation, competitiveness, and employee comfortability (Thakur & Dhar 2022). Because most participants had a basic understanding of DEI terms through outside sources and because the questions in the pre-test were term-based questions., this may have accounted for the ceiling effects observed for participants' performance on the pre-test. Our findings of improved performance from pre-test to post-test align with Erath and colleagues' (2021) findings that video-based training improves performance. Our results also provide additional support for the notion that online training is a modality that organizations can use to train staff and that

online video-based training benefits can extend to DEI-related content. This is important given that Esteban-Lloret *et al.*, (2018) found that employee training improves not only individuals' performance but also organizational legitimacy and organizational performance.

While participants improved performance, the results did not support the hypotheses that generative scenarios would enhance post-test performance more than descriptive scenarios or scenarios with no label and that viewing relevant scenarios would improve post-test performance more than not viewing a scenario. Across training methods, participants performed similarly on both the pre-test and the post-test. For the analysis of correct recall of work and school-based scenarios as a function training method, the results revealed that participants in the generative, descriptive, control scenarios, and control no scenarios training methods performed similarly on the work and school-based scenarios indicating that the training method did not affect the likelihood of recalling the type of scenario.

We were unable to calculate change scores from the pre-test to post-test due to differences in the nature of the tests. Within our pre-test, the questions were term and definition-based questions, with one scenario-based question that was neither written within a school nor a workplace environment. In contrast, the post-test scenario questions were based in school and workplace settings. Future research should add scenario-based questions to the pre-test to accurately investigate whether generative scenarios would enhance post-test performance more than descriptive scenarios or scenarios with no label and allow for a direct comparison with post-test performance.

There are several things that could account for us not finding differences in performance across our four training conditions. First, the programming glitch meant that our four conditions were not equivalent in overall training/distractor time. Second, through a misunderstanding, those in the no scenario control condition received a different type of distractor task than did those in the three conditions who viewed scenarios. As noted, those in the training method with no scenarios were asked to read DEI-based short stories for 5 minutes and never completed the distractor task that participants in the other three conditions completed. While these short stories were unrelated to the training content, it is possible that participants may have related the content learned in the training video to the DEI stories and self-generated titles for any perceived overlap in the concepts in the training video and the stories. If so, this could account for why participants in the no scenario condition performed as well as those in the conditions with scenarios, as would be predicted by Woods et al's. (2021) and London and Hall's (2011) theory of generative learning and the testing effect, respectively.

While unexpected, we found that participants' performance on work-based scenarios was significantly higher than participants' performance on school-based scenarios. Given Cox *et al*'s. (2017) findings that self-referent encoding should yield better memory of the scenarios than scenarios with no personal meaning to participants, we expected students to recall more scenarios in a school-based setting than those in a workplace setting and scenarios in a work-place setting to be better remembered by student-workers than by student non-workers. The results of our study did not align with our hypotheses in that there was insufficient evidence to conclude that recall of work and school-based

scenarios differed as a function of the participants' current work status. This study's results run counter to both the situated learning theory which suggests that authentic experiences are a critical component of the learning process (Klassen *et al.*, 2021), and to the self-referent encoding theory which suggests that presenting scenarios that are authentic to the trainee's real experiences will increase transfer, self-efficacy, and preparedness (Cox *et al.*, 2017).

The finding of higher performance for work-based scenarios than school-based could be explained by the higher media exposure of work-related DEI issues and conflicts. In terms of DEI, there are several different types of discrimination and many different laws that the U.S. Equal Employment Opportunity Commission has issued for the protected classes to ensure equal employment. Through the high media exposure of equal employment laws and work-related DEI issues with age discrimination, disability, sex, and race, DEI scenarios may be better recognized within a workplace setting than in a school-based setting. Participants may have recalled more work-place scenarios than school-based scenarios because of more previous exposure to workplace specific DEI issues through available online information and media exposure.

Of interest is the finding that participants' post-task questionnaire responses revealed no differences in the mean ratings of school-versus work-based scenario helpfulness, despite participants remembering more information from the work-based scenarios.

Moreover, when asked whether they related more to school than to work-based scenarios, their mean response fell almost exactly in the middle of the 5-point Likert scale (2.44), indicating that they neither agreed nor disagreed with the statement. The results from the post-task questionnaire were unexpected for the three questions of "The scenarios

improved my learning. Scenarios that were related to a school environment improved my learning."

These three questions all involved and related to the use of scenarios in the training method; however, it was unexpected to see that our control condition with no scenarios rated the highest on the agreeableness scale for the questions, "Scenarios improved my learning, and scenarios that were related to a work environment improved my learning."

While we expected to draw conclusions from the post-task questionnaire, the results do not align with the performance results. Future research could be conducted removing the scenario questions in the post-task questionnaire for the control condition without scenarios.

From our study we can conclude that video-based training methods enhance learning and performance. Our findings of improved performance from the video-based training methods can extend to current practices in industrial and organizational psychology and organizational training and development in which video-based training methods with voiceover narration can be used improve retention of DEI based concepts. Our findings and Erath and colleagues' (2021) findings of improved training consistency and improved recall from video-based interventions can be applied to organizational training to improve knowledge of DEI content. What remains to examine is whether the information retained within the training method translates to actual behavior. Cox *et al.*, (2017) indicated that scenario-based learning translates to behavior by engaging participants in interactive scenarios that present authentic experiences followed by questions of the possible course of action. To ensure the knowledge from the training methods transfers to behavior, organizational training methods could ask several

questions throughout the training regarding what the best possible course of action is for each scenario instead of asking what concept the scenario was targeting. Additional research should be conducted asking action-based questions and using Erath *et al's* proposed three-step model of providing the trainee with instructions on the target skill, modeling the target skill for the trainee, and providing a prompt to the trainee to practice the target skill to ensure the knowledge learned in the training methods can be transferred to workplace behaviors.

While these findings collectively indicate that participants learned from online training methods, regardless of whether scenarios were included or not, there were limitations throughout the study that may have affected the results. One limitation to the study was the previously noted differences in overall time across conditions; due to a programming glitch, the distractor tasks presented to the participants after the training method did not equate overall time. Future research should be conducted using distractor tasks that would equate time across conditions. Another limitation within the study was the use of DEI short stories as a distractor task for the training method without scenarios. Participants may have related the learned content to the DEI short stories and rather than the DEI short stories acting as a distractor task, it could have inspired generative learning. Future research should be conducted using a distractor task that is completely unrelated to the training topic, for example, a short story about birds or cars. Finally, another limitation was the classification of a student worker for the analysis of scenario setting performance. We were unprepared for how varied students' responses would be and how difficult this classification process was. Future research should be conducted with an

appropriate classification of student worker to further study the theory of self-referent encoding within scenario-based learning.

While our results did not turn out as expected, we feel comfortable concluding that video-based training, including video models with voiceover narrations of the content, can improve learning and ensure that training content is delivered as intended and in a consistent manner. Across all four conditions participants showed improved performance after watching the DEI training videos. Previous research indicated that generative learning deepens the encoding process and scenario-based learning has positive effects on performance (Woods et al., 2021; Moats et al., 2018); however, within our study we did not find significant differences between the training methods. Previous research has also indicated that self-referent encoding increases transfer and preparedness (Cox et al., 2017); however, our study found that performance of work and school-based scenarios did not significantly differ between the current work statuses of student worker and student non-worker. The data did not support the hypotheses in that there were similar improvements in performance across training methods, and student workers and studentnon workers performed similarly on work and school-based scenarios. Nonetheless, we can conclude from our experiment that video-based training methods enhanced learning and performance.

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Appendix A. IRB Approval Letter

Date: 26 July 2023			
	X_Expedited (see pg 2)		
PI: Chloe Wood	Exempted (see pg 3)		
DI Danastora de Barrella la car	Full Review Extension of Approval		
PI Department: Psychology			
The University of Alabama in Huntsville			
Dear Chloe,			

The UAH Institutional Review Board of Human Subjects Committee has reviewed your proposal titled: *The Effectiveness of Video Based Training* and found it meets the necessary criteria for approval. Your proposal seems to be in compliance with these institutions Federal Wide Assurance (FWA) 00019998 and the DHHS Regulations for the Protection of Human Subjects (45 CFR 46).

Please note that this approval is good for one year from the date on this letter. If data collection continues past this period, you are responsible for processing a renewal application a minimum of 60 days prior to the expiration date.

No changes are to be made to the approved protocol without prior review and approval from the UAH IRB. All changes (*e.g.* a change in procedure, number of subjects, personnel, study locations, new recruitment materials, study instruments, etc) must be prospectively reviewed and approved by the IRB before they are implemented. You should report any unanticipated problems involving risks to the participants or others to the IRB Chair.

If you have any questions regarding the IRB's decision, please contact me.

Sincerely,

Ann L. Bianchi IRB Chair

Associate Professor, College of Nursing

Arm L. Branchi

Appendix B. Demographic Questionnaire

What is your age?

Please specify your ethnicity?

- o White
- o Hispanic
- o Latino
- o Black or African American
- Native American
- o Asian
- Native Hawaiian or other Pacific Islander
- o Two or more
- o Other (Please specify)

What is your Gender?

- o Female
- o Male
- Other (Write in option)
- 3. Which of the following categories best describes your employment status?
- o Part-Time Student (1-11 credit hours), Not employed
- o Full-Time Student (12+ credit hours), Not employed
- o Part-Time Student (1-11 credit hours), Employed and working 1-39 hours per week
- o Part-Time Student (1-11 credit hours), Employed and working 40 hrs or more per week
- o Full-Time Student (12+ credit hours), Employed and working 1-39 hours per week
- o Full-Time Students (12+ credit hours), Employed and working 40 hrs or more per week
- 4. If you are employed, where do you work and how long have you worked there? (Write in option)
- 5. Which of the following best describes your parental status?
- o I do not have any children.
- o I am currently raising children who live with me.
- o I have children, but they do not live with me.
- o My children are adults (18+) and live with me.
- o My children are adults (18+) and live on their own.

Pre-Test

Have you previously heard of Diversity, Equity, and Inclusion

o Yes
o No
Have you previously participated in Diversity Equity and Inclusion Training?
o Yes
o No
3. Have you ever experienced discrimination? If yes, for which of your identities?
(Write in option)
Please use the following 1-5 Likert Scale, with 1 being strongly disagree and 5 being
strongly agree. Please select an answer to the statements below.
4. The topics of Diversity, Equity, and Inclusion are important to learn and understand. o
Strongly Disagree
0
o Neutral
0
o Strongly Agree
5. Understanding the importance of Diversity, Equity, and Inclusion allows for diverse
backgrounds to work together efficiently.
o Strongly Disagree
0
o Neutral
0
o Strongly Agree
6. What is the definition of a stereotype?
 When someone is treated unfairly because of their social identity group
When someone is treated fairly because of their social identity group
 A widely held belief, generalization, or oversimplified idea about a social identity
group
A supported belief about someone's skills
7. What is the definition of equity?
o The state of inequality or unfair treatment
o The act of being treated poorly because of a social identity group
The state or quality of being just, fair or impartial
Supporting peers regardless of their social identity group
8. Biases are considered always conscious and are the tendency to prefer one person or
thing to another and favor that person or thing.
o True

False

- 9. What is an implicit attitude?
 - Subtle automatic attitude responses over which one has little control
 - o Conscious attitudes that are directed towards someone's social identity group
 - o Hateful attitudes that harm someone's well being
 - Attitudes that are easily controlled
- 10. George is a 70-year-old grandfather and has signed up to go skydiving. When George goes to meet the skydiving instructors, they laugh and ask George if he really wants to participate at his age. This is an example of:
 - Harassment
 - Implicit bias
 - Stereotype
 - Ageism
- 11. Which of the following are types of discrimination?
 - o Age discrimination
 - o Disability discrimination
 - o Religious discrimination
 - All of the above
- 12. A prejudices is a preconceived attitude towards a specific group of people.
 - True
 - o False
- 13. What is a microaggression?
 - o A direct or intentional discrimination against members of a marginalized group
 - An indirect, subtle or unintentional discrimination against members of a marginalized group
 - o Being physically aggressive with members of a marginalized group
 - None of the above
- 14. What is diversity?
 - A mixture of differences and similarities that include characteristics, values, backgrounds, behaviors, and preferences.
 - o Encompassing thought, education, skills, differences, and gender
 - o Involving people from a range of different backgrounds
 - All of the above
- 15. What form of bias focuses on behaviors?
 - Implicit bias
 - Discrimination
 - Gender bias
 - Appearance bias

Appendix C. Training Concepts and Scenario Setting

Table C.1 Training Concepts and Scenario Setting. This table shows the DEI concepts used in the training methods with identification of the scenario setting.

DEI Topic		Presentation Scenario Testing S Setting Setti			No scenarios	
	School	Work	School	Work		
Stereotype		X	X			
Stereotype			X			
Prejudice		X				
Microaggressions	X					
Macroaggressions		X				
Oppression					X	
Stereotype Threat				X		
Intersectionality					X	
Discrimination					X	
Age discrimination		X				
Sexual Harassment	X					
Religious Discrimination	X					
Sexual Orientation Discrimination		X		X		
Status of a Parent	X					
Disability Discrimination	X			X		
Explicit Attitudes/Bias		X				
Implicit Attitudes/Bias	X		X			
Resolving Diversity Conflict					X	

Appendix D. Voice Over Text of Training Concepts

"The first couple concepts we will cover are stereotypes and prejudices.

A stereotype is defined as a widely held belief, generalization, or oversimplified idea about a social identity group. Stereotypes often lead to assumptions about people without evidence to support those assumptions. With stereotypes, it is important to consider while some may be positive, most are negative. Prejudices are defined as a preconceived attitude toward a specific group of people. Prejudice can lead to differential treatment of people based on their group membership. Prejudice attitudes can either be categorized as explicit attitudes or implicit attitudes. Explicit attitudes are conscious and can be readily described; whereas implicit attitudes are subtle automatic responses over which one has little conscious control."

"Let's now compare microaggressions and Macroaggressions. Firstly, Microaggressions are defined as an indirect, subtle, or unintentional discrimination against members of a marginalized group such as a racial or ethnic minority. Microaggressions are often a comment or action that subtly and often unconsciously expresses a prejudiced attitude towards others. Microaggressions may cause harm; however, they happen casually, frequently, and often without any harm intended, in everyday life. Macroaggressions are defined as big, systemic forms of oppression rather than interpersonal forms of bias or discrimination. Macroaggressions are overt aggressions towards those of certain race, culture, gender, etc."

"Now let's talk about a stereotype threat and why stereotypes are very harmful. A stereotype threat refers to the risk of confirming negative stereotypes about an individual's racial, ethnic, gender, or cultural group, which can create a high cognitive load and reduce academic focus and performance. In the terms of a stereotype threat, when a negative stereotype or stereotype threat happens, cognitive performance may decrease."

"Now we are going to move on to the concepts of oppression and intersectionality which relate to one another. Firstly, let's talk about oppression. Oppression refers to a combination of prejudice and institutional power that creates a system that regularly and severely discriminates against some groups and benefits other groups. Oppression can be related to intersectionality in that, multiple social identity factors may interact to produce forms of social oppression. Intersectionality is a term used to explain the idea that various forms of discrimination, such as those centered on race, gender, class, disability, sexuality, and other forms of identity, interact to produce social forms of oppression. While intersectionality may be oppressing, it may be empowering."

"Over the next couple slides we are going to talk about discrimination and the different types. Discrimination is defined as unfair or prejudicial treatment of people and groups based on characteristics such as race, gender, age, or sexual orientation. Some of the common types of discrimination that occur often within the workplace are: age discrimination, sexual orientation discrimination, sexual harassment, status as a parent discrimination, religious discrimination, and disability discrimination."

"Let's look a little deeper into age discrimination and religious discrimination. Age discrimination is when a person or group is treated unfairly because of their age. Age Discrimination can occur if there are hostile attitudes towards the older population and is most likely to occur within the workplace. Religious Discrimination involves treating a person unfavorably because of their religious beliefs. religious discrimination can also involve treating a someone differently because that person is married to or associated with an individual of a particular religion."

"Moving on, we have disability discrimination and sexual orientation discrimination.

Disability discrimination is when an individual is being treated less well or put at a disadvantage for a reason that is related to that individual's disability. Discrimination because of disability is more common to occur within the workplace and has many harmful effects. Sexual Orientation Discrimination occurs when one is treated differently because of their sexual orientation. This type of discrimination is when someone experiences unfair treatment because of their sexuality. For example, being heterosexual, gay, lesbian, or bisexual."

"Harassment can include sexual harassment or unwelcome sexual advances, requests for sexual favors or other verbal or physical harassment of a sexual nature. Harassment can also include offensive remarks about a person's sex. Discrimination can occur based on parental status. Status of a parent discrimination is likely to occur within the workplace

and can include actions such as cut work hours, denial of a job, or termination because of parental status."

"To end our training, we will cover the 4 steps to resolve diversity conflict within daily living and the workplace. The first step to resolve a diversity conflict is to reflect. This is where one would review facts from the situation conflict. The next step is to connect, and this is where one can ask questions to better understand other's attitudes and identity. The third step is question yourself by questioning your own attitudes. Lastly, the fourth step is shifting the mind-set, where one could ask yourself changes you could make to improve your relationships with others different from yourself. Having a diverse group of people can have many positive outcomes, especially within school and work environments. Diverse groups of people can give a competitive and innovative advantage."

Appendix E. Work and School-Based Scenarios

Workplace Setting

Scenario = It is Jenny's first day of her new job working at an engineering company.

Jenny is leaving her first team building meeting when she overhears two co-workers making remarks about the facilitator of the team building being a woman and how all women only focus on bonding and emotions. = This is an example of a stereotype.

Scenario = Charlee is a manager in a marketing company and has a preconceived attitude that older adults lack energy to complete tasks. Because of Charlee's preconceived attitude, he has not given the last three work assignments to the older members of his team. = prejudice discrimination.

Scenario = Lana must go to her manager's office to pick up a pay stub at the end of her workday. When she walks into the office, she notices a confederate flag as her manager's desktop screensaver. = Macroaggression

Scenario = George is 60 years old and is going up for a big promotion in his accounting job. George finds out that he has been turned down for a promotion that ended up going to a younger worker who was less qualified. George is upset about the promotion and does some research to find that his company has a pattern of older workers being overlooked for promotions and promotions typically go to younger workers with no evidence of the decisions being based on merit. = Age discrimination/ageism

Scenario = Lenny has always cared a lot about her job and has received good reviews and rankings from her coworkers in the past. Lenny is bisexual and brought her girlfriend to a work party last week. After this work party, Lenny received lower rankings and worse reviews from her coworkers; however, she is confused because her job performance and

behaviors have not changed since the previous review. = Discrimination of sexual orientation.

Scenario = Britney is a human resource manager at a large factory and has recently found out that employees are experiencing unfair pay. Britney decides to go to her boss with evidence about this issue to help her fellow coworkers; however, her boss denies the allocations and tells her to leave it alone because she likes it that way. = Explicit bias

School Setting

Scenario = Dr. Wallen is a professor that teaches general psychology. Within the social psychology chapter there is an assignment regarding romantic relationships. Dr. Wallen states "For the class project, I want you to think about a romantic relationship that you have had with a member of the opposite sex. Think and write about your observations." Dr. Wallen is demonstrating a microaggression because he is assigning a class project that is = Microaggression

Scenario = Dr. Lynn is a professor at a local university in Alabama and teaches a social justice class where a large part of the student's grade is participation. Before the class even begins at the beginning of the semester, Dr. Lynn unconsciously assumes that women will have more quiet participation styles and men will have more argumentative participation styles. = Implicit bias

Scenario = Terry is attending a macro economics class at a local university and is placed in a group to do a large assignment throughout the semester. Terry meets up with the group once every two weeks to work on the assignment and touch base with his group members. Terry has hearing loss and has a hard time hearing his group members in regular meetings. Terry has started to bring an assistive device to meetings that group

members can speak into to ensure Terry can hear everything within the meetings. Terry's group refuses to use the assistive device and as a result, Terry continues to have a difficult time hearing in the meetings. = Disability discrimination.

Scenario = Tim has two young children ages 2 and 4, who attend a daycare while Tim is at school; however,this morning Tim's 4-year-old woke up with a fever. Tim emails his professor to explain that he needs to miss class to take care of his sick child and the daycare won't allow the child to go to daycare because there is a risk of getting the other kids sick. Tim's professor tells Tim he better find someone else to take care of the kids today because he will miss important information and it is unprofessional to miss class.

= Status as a parent discrimination

Scenario = Jen is enrolled in a class at a local university. For religious purposes Jen wears a hijab whenever she is in public, such as attending her class. Jen is the only person in her class that wears a hijab, and she has noticed that her professor has been demonstrating bias towards her. Jen has emailed her professor multiple times throughout the course of a month and has not received a response; however, when she asks other students in the class if the professor has answered them, she learns that he has been responding to others in a timely manner. = Religious Discrimination

Scenario = Dr. Smith is a professor teaching literature at a university and has been giving special attention to Caleb who is a student in her class. Dr. Smith has invited Caleb to dinner after school with no intention of school related business. When Caleb denies, Dr. Smith gets defensive and threatens to give him a poor grade on the next assignment if he does not go. = Sexual Harassment.

Appendix F. Distractor Task for Training Methods with Scenarios

Unscramble the following words.

1.	GCAMIIHN	MICHIGAN

2. EESNTSENE TENESSEE

3. GERGIAO GEORGIA

4. IRAOZNA ARIZONA

5. OIHDA IDAHO

6. NMGYOWI WYOMING

7. WEN REIPSHHMA NEW HAMPSHIRE

8. HOOI OHIO

9. VIIAIGRN VIRGINIA

10. ALKAMOHO OKLAHOMA

11. AAEDNV NEVADA

12. TOANMAN MONTANA

13. AKRESABN NEBRASKA

14. MBAAALA ALABAMA

15. MNEOTVR VERMONT

16. XSAET TEXAS

17. SAKAALA ALASKA

18. IURSOSIM MISSOURI

19. NEASMTOIN MINNESOTA

20. UOALANIIS LOUISIANA

21. THAU UTAH

22. NIAME MAINE

23. YCTKEKNU KENTUCKY

24. WHIIAA HAWAII

25. WOIA IOWA

26. REGONO OREGON

27. EWN XCIMEO NEW MEXICO

28. DAANIIN INDIANA

29. FCARLNIOIA CALIFORINA

30. TOWGHSANIN WASHINGTON

31. SWSOICNIN WISCONSIN

32. EWN ORKY NEW YORK

33. AOLROCOD COLORADO

34. TWES ANIIGRVI WEST VIRGINIA

35. TUSOH OTDAAK SOUTH DAKOTA

36. UOHST AROICALN SOUTH CAROLINA

37. NNLVEAANPYIS PENNSYLVANIA

38. THNOR KATDAO NORTH DAKOTA

39. ROTHN ROLCANIA NORTH CAROLINA

40. ENW RESYEJ NEW JERSEY

41. IPSSIMSISPI MISSISSIPPI

42. CHSESTTSSMAAU MASSACHUSETTS

43. KANRAASS ARKANSAS

44. TINNOECUTCC CONNECTICUT

45. LARWDEA DELAWARE

46. ROLDFIA FLORDIA

47. LONILISI ILLINOIS

48. SAKASN KANSAS

49. YRADLAMN MARYLAND

50. LARWDEAE DELAWARE

Appendix G. Distractor Task for Training Method Without Scenarios

Who am I?

By Temiloluwa Orgunade

I hated that my name caused such a wide disparity and interrupted the flow of "normal" white names, but I am *a wallflower* so I could do nothing but listen; either to understand my place or to find where I belong.

Instead of choosing one or the other, I ran away from who I genuinely was because I could not escape the *box*. I was trapped. The box hovered over my line of vision and prevented me from knowing where I belonged. So, I kept running. Shifting between my culture and not embodying the stereotypical black girl, I neither got the references nor slang that made one "black" or "white." I poked two holes in the box, eager to see the world around me and who I could be one day.

As I held my gaze, I observed my surroundings, mirrored what worked, and discarded what didn't. I took and took until I realized I couldn't do anything else but take. I was like *clay*, easily groomed as I absorbed more than I could withstand. Thus, I soaked up the perfect American accent, how the perfect Instagram body should look, what clothes I should wear, or which hairstyles would bring more attention to me. I felt it was wrong to be me. People would come up to me and say, "Wow, I love your accent," and would never talk to me again. Immediately, I thought to myself, "Dang it! I failed..."

With each step, it was the clink of my heels that sent out signals, welcoming my presence before I even uttered a word. I was like an *empty can*, and my culture was the sound that followed. People heard that sound before they saw me. Unlike others, I was ashamed of that sound because it was loud; I envied those without the clink. It was the little remarks like, "Did you live in the jungle?" or "Did you see lions every day?" that made me feel like I needed to mask my sound. I needed to cover every inclination of my African culture to be noticed by my peers and to prove to myself that I was worthy of reverence.

Layer after layer, my sound drowned under the padding. Hence, I shortened my name and put on my best American voice, but like the buzzing of a bee and the chirping of a bird; my sound still reminded me of its existence. As I walked, I was unsure of when my armor would rip, and the sound will reveal itself once more. Swiftly, I created a person who took on the souls of those around me and molded the personalities I observed as my own. I created a person that was one way at home, one way at school, and one way online.

Consequently, I surrounded myself with shallow friendships, joined organizations where I felt excluded, and overanalyzed how my actions would come across to strangers who didn't even know how to pronounce my name. I wasn't too surprised, after all I created a distorted version of myself. It only made sense that I attracted people who liked the false version of myself. I felt like a *stray dog*, cheerful and potent in one sense, but also one

that is two faced and lacks direction. During the day, I am my happiest. Barking loudly and licking strangers with glee, but at night I cower in fear—missing the warmth of a *real* home. Like the stray dog, I longed for the sharp rays of the sun to chase the stillness of the night and my dark thoughts away.

Unlike the other days when my pain was postponed by the swiftness of the alarm, tonight was different. This time my thoughts pursued me with intent through the night. As I rolled over and counted down the hours until it was time to put on a merry face again, my mind spiralled into a frenzy of obscure emotions.

In the meantime, the headaches intensified and made me wince as I consumed more and more water. The aching feeling in my stomach now metastasized towards my back, shoulders, and legs. Now laying on my stomach, something whispered to me repeatedly; "who are you?" Then louder, "WHO ARE YOU?"

I was so consumed by perfect American names and the unrealistic bodies around me, skipping one out of three meals a day and repressing my culture turned into having only one meal a day and hating the sound of my own name. As my mind faded to black, finally releasing me, I could only hear the faint sound of my mum's singing:

Temiloluwa...Temiloluwa...omo mi iyebiye

Temiloluwa, Temiloluwa my precious child

tio dara lopolopo ti o je bi ore-ofe bi apakan kan ti agbaye

a gem that is as precious as just a piece of the universe

I was brought up by the principles of this old Nigerian song my mother would sing to me before bedtime. I never understood what she was talking about, but my younger self liked the way my name sounded in the song, so I would always beg her to keep singing even when my bedtime had long disintegrated from the forefront of my mind. As time passed, it became utterly clear the difference in how my name sounded from those I loved versus how I viewed myself and those that tried to belittle me. It was extremely difficult for me to come to terms with the fact that I would never be like the manufactured bodies online. I would never sound like them or dress like them.

As a result, I was not okay.

Hating my name or starving myself was not going to raise my esteem from the depths of my overly critical gaze. It was the starry-eyed nature of the *American Dream* that blinded me from realizing that one country or that one concept of beauty does not hold all the treasures to life.

My mother saw the arrant pride in my existence and remembering her song became the catalyst.

Beneath all the lining, I was still a shy *Nigerian* girl who wanted to be accepted. I may not fit into the ample categories of life, but I am my own subset. I am *Temiloluwa (TAY-ME-LOW-LU-WA)*. *T'emi* for short, which means *mine* in English.

Truly, I belonged to myself and no one else.

Us

By Jessica Wang

Youth.

When I was young, I loved you. I loved the bristle of your black hair in my hand and the crinkle in your eyes as you twirled around for the tenth time to funky pop music blasting in the background. Back then you had loved dancing, and I loved watching you do it. I still remember you cartwheeling and flipping across the faded Chinese carpet māmā had bought for twenty dollars at the thrift store. We used to give dancing performances to lǎolao and lǎoyé on it, both of us dressed in oversized boots and māmā's prized velvet hats. Lǎolao and lǎoyé would always take us to the convenience store after each performance and allow us to pick up as many candy bars and bubble gum pieces as we wanted, spoiling us in a way only grandparents can. We made sure to give a lot of performances.

I remember our trips to China and māmā taking us to the nearby opera one day. You had worn a red dress bedazzled with golden silk and boots with flaking Hello Kitties that day, and I thought you were the most beautiful person in the world. We had settled in our red seats and the world itself hushed when the curtains opened. The performers were dressed in shades of red and seemed to float on the stage the same way water lilies floated on a koi pond. You had told me you wanted to float like that one day, and the woman next to us had to bite her tongue to stop herself from laughing. Later a man performed the

traditional biàn liăn trick, changing his dragon mask to a tiger mask in a matter of seconds. He was so fast we only saw a swirl of black and gold. It was so startling you dropped your plum juice onto your lap, which caused māmā to throw a fit afterward.

Back in America we had vowed to discover the secret behind the man's biàn liǎn trick and found a YouTube video on it from bàba's forbidden work computer. But the video was thirty minutes long and included a dozen advertisements with red pigtailed girls holding up sweaty hamburgers, so we never did find out.

I loved you so much.

Names.

I always liked your name. It's a little hard to pronounce, but I like it. It stands for a certain scent, a warm and cozy one, like the smoke of a crackling fire or the smell of fresh dumplings māmā makes every Friday. I was obsessed with your name and liked repeating it over and over again just to hear the sweet syllables ring out. It reminded me of lazy days spent in lǎolao's apartment in Beijing, eating chewy tart haw flakes and watching mandarin dubbed Hello Kitty. I even knew how to write your name, all nine strokes of it, and I was never good at writing the loopy letters of our mandarin language.

Māmā told me she named you after a princess she used to read about in the faded yellow pages of her grandma's fairy tale book. She used to tell me stories from the book,

weaving together fluttering words about the monkey king and his magical baton that could change sizes. She never told me what your story was about, but I'd like to imagine the princess had beautiful black hair like yours and crescent moon eyes that shone with delight. Maybe she liked to dance.

In America, māmā called me "Jessica." It's a nice name and easy to pronounce, but it wasn't as pretty as your name, Xiāng Xiāng.

First.

The first time I heard the word "chink" I was in 3rd grade. I was eating a pork pastry māmā bought from the asian pastry shop downtown. A boy with buck teeth and straw hair came up to me and asked if I was Chinese. When I said yes, he said I guess you're a chink and then asked if he could borrow my pencil. I don't remember much about that kid except that he threw tantrums often and liked picking his nose with his pinky finger. He was actually pretty nice. I think his name was Tim.

When I got home, I asked māmā what it meant to be a chink and her face grew all sour and angry like a dried up prune. She didn't say anything and instead went to bàba's work office, slamming the door shut. There were many phones ringing that day.

I searched the word up later on bàba's work computer and found out that chink meant "a small cleft, slit, crack or fissure." You patted me on the back and reassured me that I did

not look like a crack or a fissure and I appreciated your support. That day we had performed a sequence of cartwheels to our grandparents and you slipped and fell. You never fall.

Now that I think about it, I don't even think you knew what the word fissure meant.

Failure.

We used to spend Sunday mornings at the local high school learning how to write squiggly mandarin and recite mandarin syllables. In the afternoon the program offered clubs centered on Chinese culture where we learned how to play "Go" and wrap dumplings. It was basically a Sunday School for Chinese kids, a place for people like us. I remember every Sunday māmā would give us enough money to buy one treat from the vending machine in the front office. I always chose Cheetos because I liked licking the orange dust off my fingers. There was nothing in this world that was better than artificial cheese on fingers. I remember we would walk home afterwards, sticky hands intertwined.

One Sunday I failed a big exam. It was an easy test on numbers. Everybody else scored in the 90s or 100s, but I got a big ol' 61 written in red ink. It was my own fault. I had chosen to start playing soccer, which had games every other Sunday. All my American friends played soccer, so of course I needed to play soccer too. At age twelve, I already knew the rules of fitting in.

But you didn't. You didn't even know there were rules, and if there were, you didn't care. You once told me that if everything was the same, then nothing would be fun anymore. Besides, you had long given up on fitting in, choosing to dress in big red T-shirts and ruffled red skirts and red shoes that clicked when you tapped them together. And when I asked why you dressed in so much red you proudly stated that red is a lucky color. You told me it's the color of soft paper lanterns and candied fruits and folded envelopes and silk dresses with yellow dragons. The color of us. Plus, it complemented your skin tone.

That day you berated me in the hallway, saying that I should quit soccer and how Chinese school was more fun and how they even had a dance program we could sign up for. I don't even know why you wanted to continue dancing, lǎolao and lǎoyé were back in China so our flow of junk food was cut off. But then you looked at me with stars in your eyes and said it was our culture in such a wistful way I almost caved in. Then I thought about the stares and whispers of my American friends, and I ignored you.

You walked home alone that day.

Wishes.

When I told my American friends, I wanted to be Caucasian, they laughed and called me insane. I remember one of them told me that Asians were exotic and I should be proud to

be one. I didn't know whether to be offended or flattered. They didn't understand the extent to which I envied them, how much I wanted to take their skin and use it to cover up mine, as if skin could be copied and pasted. I just wanted to feel for once what it felt like to be beautiful. Just once.

That night I dyed my hair blonde in front of the mirror. The dye stung my scalp and caused my eyes to turn into watery kaleidoscopes. I didn't even think I looked that pretty as a blonde. But I didn't regret it, not one bit.

And when you saw me as a blonde, you had cupped my face and kissed away my tears, your lips soft and red on my cheeks. You had kissed my skin, my eyes, and my hands, embracing the parts of me I never loved.

You told me I was already beautiful, that I didn't need to change at all, that my soft yellow skin reminded you of the sunlight and the curve of my eyes was like the moon's. You told me that my pupils held the beauty of the night and that when I danced I stole the very breath from your lungs.

I wish I could have believed you. I wish I could have seen myself the way you saw me.

Realization.

I called you ugly on a Thursday night when the air was foggy and the clouds covered up the stars. I said I hated you and how you were a stupid, slit-eyed girl with piss-colored skin. I screamed that you were the source of my problems and that I could never fit in thanks to you. I called you every single hateful name I could think of and pulled at your black hair and clawed at your face.

The worst thing was that you said nothing. You just sat there and stared back from my bedroom mirror. And when I pressed my head against the surface of the mirror, so did you. When I traced my hands down the reflecting glass, so did you. You looked strange with blonde hair.

I kissed you that night, pressed my lips against the glass mirror and watched as you did the same. I kissed you through the mirror, eyes closed and tears dripping down my cheeks. You were my culture, my ethnicity, me. Your only crime was your existence, your only gift, love, and I had beat and shunned you. My own ethnicity.

I smashed the mirror that night. Every single bit of it. The glass pieces looked like tiny glittering stars and held the reflection of someone I didn't know. I then stepped on those starry shards, grinding them into minuscule bits and watched as my feet bled the color of us. I couldn't stand looking at you with your blonde hair and moon eyes. I couldn't stand how much I had changed myself. I had hurt you myself in the worst ways possible.

That night I curled up into a ball and hugged myself, stroking my soft yellow skin and tracing the curve of my eyes. I memorized the tender flesh of my cheeks and the coarseness of my hair, and promised that I would treat myself better.

And underneath the darkness of my blankets, I whispered a thousand apologies to myself that went unanswered.

Me

My name is Jessica Wang but my Chinese name is Wang Xiāng Xiāng. I was born in America, but my parents are Chinese immigrants. I enjoy dancing and performing in front of others, but not as much as I love eating Cheetos. In my sixteen years of life, I have learned I can never change my soft yellow skin, moon eyes, and black daisy-smelling hair. These are the gifts of my ethnicity, gifts from you. They are more than enough for me. The name "Jessica" comes from American soil, while the name "Xiāng Xiāng" comes from a land of dancers that float like water lilies. They are both my names, two halves of one whole. And I wouldn't have it any other way.

You and Me.

I go outside one day, wearing a red skirt and a red tank top with thick, red balm all over my lips. My red shoes click when I tap them together. Red is a lucky color. It's the color of me, of us. I scream and holler broken mandarin words so the world can hear, and just in case the world doesn't hear it the first time, I scream again. And again. And again.

Hear me. See me. Feel me.

I no longer play soccer; instead, I try to write mandarin words I had long forgotten and help māmā fold and crimp meat dumplings. Lǎolao and lǎoyé FaceTime occasionally and they show me the world around them: red paper lanterns, folded envelopes, silk dresses and all. I even play "Go" with bàba and of course am utterly defeated in a matter of minutes.

And sometimes just for the sake of childhood, I put on a pair of neon green boots and fish out one of māmā's scarves and add a floppy yellow sun hat to top it off. I switch the radio to a station that plays funky pop music and raise my hands to prepare for a cartwheel. I make sure the performance is outstanding, with twirls and handstands and all sorts of kicks and jumps. It's certainly not a Chinese dance, but it reminds me of folding dumplings and yellow lanterns and dancers that float like water lilies. It makes me feel closer to my culture, to my ethnicity, to you. Throughout my performance I can hear you beating, pulsing, whispering, in my ear, I love you. I love you. I love you.

You are beautiful.

I am beautiful.

Appendix H. Exam Scenario Questions

- 1. Paige is studying with several good friends for a math exam. Paige's friend Ryan suggests a competition within their study group to reduce stress. If the guys have a better average score than the ladies, then the ladies buy movie tickets; if the ladies do better, the guys buy movie tickets. Ryan makes a comment "I guess you girls will be buying the movie tickets, because you know how women are at math." Is this comment problematic?
- o Yes, Ryan is using a stereotype and making assumptions about gender.
- o Yes, Ryan is very confident about his intelligence.
- o No, Ryan is making an educated assumption.
- o No, Ryan is just joking.
- 2. What is an explicit bias?
- o An unconscious attitude towards a specific group or person.
- o A hurtful attitude that leads to the behavior of discrimination.
- o A conscious attitude or belief about a specific group or person.
- o When someone is discriminated against because of their age.
- 3. What is this example demonstrating? "Liam is a student at the University of Alabama in Huntsville. While Liam is attending a biology class, he overhears his classmate say that all men are disorganized."
- o Bias
- o Stereotype
- o Discrimination
- o Diversity
- 4. Prejudice is only an attitude, and it does not lead to differential treatment of people based on their group membership.
- o True
- o False
- 5. What is this example demonstrating? "Dr. Cole is a professor teaching a college preparation class. When Dr. Cole finds out she has three students with a learning disability in her class, she unconsciously identities these three students with lower-level work expectations.
- o Diversity in the classroom
- o Explicit bias
- o Discrimination
- o Implicit bias

- 6. What is a microaggression?
- o An intentional act of discrimination that harms another person or group
- o A big systematic form of oppression
- o An indirect, subtle, or unintentional discrimination against members of a marginalized group
- o An unconscious bias towards members of a marginalized group
- 7. What type of discrimination is this? "Alan is applying for a new job and is in the interviewing process with a company. In the interview the recruiter asks if he has any disabilities and Alan explains that he has type 2 diabetes. Without any explanation the recruiter reveals that they cannot hire anyone with a disability and ends the interview.
- o Disability discrimination
- o Age discrimination
- o Harassment of a disabled person
- o Sexual orientation discrimination
- 8. Someone may be discriminated against if they have children.
- o True
- o False
- 9. What is a stereotype?
- o A negative perception of a specific group of people
- o A widely held belief, generalization, or oversimplified idea about a social group
- o A preconceived attitude toward a specific group
- o Attitudes that one holds consciously
- 10. What is this example demonstrating? "In Heather's accounting office, she overhears a couple of her coworkers talking about how women are not good at math and when tax season comes the women in the office will struggle. Heather becomes anxious about the tax season and overhearing this conversation negatively impacted her performance at work.
- o Discrimination
- o Stereotype
- o Stereotype threat
- o Explicit bias
- 11. What is intersectionality?
- o Someone can only face one form of discrimination.
- o Having different social identities working together is positive.
- o The idea that only certain social identities are discriminated against.
- The idea that there are various forms of discrimination and social identities that interact to empower or oppress.

12. What is this example demonstrating? "Brandon has been working at a coal plant for 10 years now and the manger has explained it is time for three members of the team to get a promotion. Brandon thinks he is deserving of this position because he has been with this company the longest and he has received the highest rankings for the last four months; however, he has some concerns he won't get the position because his manager has made negative comments regarding his homosexuality. When the promotion day comes Brandon is not given the position and when he questions the decision he is turned away."

o Sexual Orientation Discrimination

- o Ageism discrimination
- o Harassment
- o Prejudice
- 13. In the context of diversity, equity, and inclusion, which is an example of oppression?
- o Many members of a company have an overgeneralized idea that feminine men cannot handle their job properly.
- o Claire has an unconscious attitude that men are more aggressive than women with getting sales.
- o Employers believe certain applicants are dishonest because of their skin color and are unwilling to hire them
 - o Claire is uncomfortable in a group of diverse people.
- 14. Having a diverse group of people working together does not have a competitive advantage.
 - o True
 - o False
- 15. What is the last step to resolve diversity-related conflict?
- o Connect
- o Shift your mindset
- o Question yourself
- o Reflect

Appendix I. Post-Task

Likert scale--- 1= strongly agree 5 = strongly disagree

1. Which type of training video did you view in this study (please read all options before selecting one)?	;
 a. Training video without scenarios b. Training video with scenarios c. Training video where I was <i>told</i> which concept each scenario represented d. Training video where I was <i>asked</i> to label which concept each scenario represented 	
For each of the following questions, please use the following 1-5 Likert Scale, with 1 being strongly disagree and 5 being strongly agree. Please select an answer to the questions below.	l
2. The scenarios improved my learning.	
Strongly Disagree	
Neutral	
Strongly AgreeScenarios that were related to a school environment improved my learning.	
3. Secharios that were related to a school environment improved my learning.	
o Strongly Disagree	
○ ○ Neutral	
O Neutral	
o Strongly Agree	
4. Scenarios that were related to a work environment improved my learning.	
o Strongly Disagree	
0	
o Neutral	
O Strongly Agree	
o Strongly Agree	_
5. Overall, I felt that I could relate to the school environment videos better than the work environment videos.	-
Strongly Disagree	
0	
o Neutral	
0	
o Strongly Agree	

	6.	Overall, do you think this online training video helped you learn?				
0	Str	ongly Disagree				
0						
0	Ne	utral				
0						
0	Str	ongly Agree				
	7.	Overall, I am satisfied with this training method.				
0	Str	ongly Disagree				
0						
0	Ne	Neutral				
0						
0	Str	ongly Agree				
	8.	Overall, I am satisfied with the content for the training.				
	0	Strongly Disagree				
	0					
	0	Neutral				
	0					
	0	Strongly agree				
	9.	In one sentence, what helped you learn this content?				
	<i></i>	, I J				
		Have you ever experienced discrimination? If yes, for which of your				