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Diversity Term Accuracy: A Comparison of SAFMEDS and Computer-Based Instruction Training Models

Candace Renae Fay

Diversity Term Accuracy: A Comparison of SAFMEDS and Computer-Based Instruction
Training Models

by

Candace Renae Fay

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Abstract

Diversity Term Accuracy: A Comparison of SAFMEDS and Computer-Based Instruction Training Models

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Promoting diversity and inclusion can impact a variety of different groups. Many organizations rely on various training methods to help ensure diversity in the workplace. However, little research has compared the effects of different training approaches on increasing recall of specific cultural terms. Thus, the present study employed an adapted alternating treatment design to explore the effectiveness of two different training approaches. A SAFMEDS training model was compared to a traditionally-applied Computer-Based Instruction, to determine which is more efficient at promoting cultural fluency. The number of correct definitions for diversity terms across various demographic categories, served as the dependent variable. Participants mastered a higher number of diversity terms when trained with SAFMEDS, compared to the computer-based instruction procedures. During maintenance sessions, participants exhibited sustained performance. SAFMEDS may be ideal for improving precision when training terms to be used in conversations about diversity, and culturally-related topics. These skills will aid in building more culturally-relevant social skills that include more complex response requirements.

Keywords: Computer-based instruction, DEI, diversity, SAFMEDS, fluency

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Dedication

I dedicate my thesis to my ancestors that weathered the darkest storms, so that I could stand on the shoulders of giants and pursue my goals to live a life they could only reach in their wildest dreams.

Chapter 1: Introduction

Diversity is the entirety of variations between individuals, which can include demographics, such as race, religion, socioeconomic status, gender, etc. (Glossary of diversity, equity, and inclusion terms, 2020). For many, the word "diversity" may evoke a certain image or private event in the form of a thought. When observing your surroundings, you may be able to identify multiple individuals who share your characteristics. It is likely that there will be some measure of diversity across demographics which may or may not be clearly visible upon observation. Inclusion has been defined as the act of arranging environments so that diverse individuals can access opportunities to participate while ensuring respect, support, and individual value is maintained (Glossary of diversity, equity, and inclusion terms, 2020).

When the environment is not arranged to foster diversity and inclusion, those who do not identify with the homogenous group can experience undue hardship (Lee, 2021). A sense of belonging may begin to dissipate for those who are part of a group or community that does not identify with the homogenous group. The divide between diverse groups can become increasingly apparent. This divide can present through differences in access to resources such as healthcare, economic resources, education, employment, as well as other crucial resources which drive gaps between people with different demographic characteristics (Assari, 2018). The social significance of this topic is clear, and as such, promoting inclusion should be an aim, not only within the field of applied behavior analysis (ABA), but across all settings and environments in which people interact in

groups. Comprehensive goals surrounding behavior change must also include change related to increasing and improving diversity in these spaces (Beene, 2019). Marginalization flourishes within environments in which minority groups and cultures are excluded or devalued (Glossary of diversity, equity, and inclusion terms, 2020). Establishing practices that help promote diversity and inclusion may be one method of ensuring these groups and cultures are not alienated from mainstream society.

As diversity and inclusion increase, other phenomena, such as prejudice are likely to decrease. Prejudice occurs when individuals hold opinions that are not rooted in reason or experience (Matsuda, et al., 2020). Increased exposure to diverse populations, contributions and information leads to a decrease in prejudice, as contact with these groups will provide the opportunity to base opinions, or gather facts, from meaningful experiences, perspectives, and facts rooted in reason. Diversity and inclusion can also extend to reductions in racism, which is the belief that a racial or ethnic group is superior, while others are inferior (Matsuda et al., 2020). This may also present a threat to identity and could further marginalize individuals across various populations.

Behavior Analysts have contributed to efforts to understand the formation of racism and prejudice as they relate to the science of behavior. A suggestion on how these two concepts have developed includes direct contingencies, such as respondent, operant, and observational learning opportunities (Matsuda, et al., 2020). Understanding the behavioral contingencies that maintain and increase future frequency of racist and discriminatory behaviors will allow the field of ABA to contribute to the literature and labors for social change which will help drive inclusivity.

Marginalization as it is related to diversity within the field of ABA has been a topic which is gaining increased attention and making appearances within the literature. It has also been reported by black, indigenous, and people of color, BIPOC, individuals within the field, that numerous barriers remain which discourage participation in tasks and conversations related to diversity and improving cultural competence within the field (Akpapuna, et al., 2020). With non-Hispanic, white-identifying individuals accounting for a disproportionate percentage (71.82%) of all certified BCBAs and BCBA-Ds, ignoring barriers for BIPOC individuals to aid in our improvements as a field works against the goal of socially significant change (BACB certificant data, 2020).

Fortunately, efforts to increase cultural competency are increasing, which include suggestions for developing cultural awareness. In the pursuit of this awareness, it is critical that behavior analysts closely consider the language utilized for assessment, making efforts to understand cultural identity, which can involve using readily available resources. Resources can include community members, as well as client family members and other professionals who can inform on possible cultural factors which will be important to understand behavior and provide potential contribution to behavior change plans (Fong et al., 2016). Considering the field of ABA focuses on socially significant behaviors, a growing understanding of various cultures could improve service delivery to clients, and ultimately increase the flexibility and social validity of the science.

Improvements regarding cultural awareness within organizational settings has been targeted, and suggestions which align with the science have been introduced. Increasing this awareness within organizations can occur if organizations embed awareness training

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and supervision at an institutional level. Steps can include (1) assigning responsibility to an individual to certify that cultural awareness is addressed (2) implanting cultural awareness training into individual supervision with supervisees and (3) integrating cultural awareness into group supervision and training activities (Fong et al., 2016). Although ABA potentially has much to offer in the way of behavior change directed toward cultural progression, there is a paucity of experimental research that examines specific behavioral techniques to promote cultural inclusion.

Organizational behavior management (OBM), is a subfield of ABA that examines and applies behavior-analytic principles to the workplace and provides tools and approaches which may lead to improvements (Wilder, Austin, & Casella, 2009). The OBM literature makes tools available for training and achieving socially significant change. However, applications of OBM within the areas of cultural competence and diversity-related topics remain restricted (Akpapuna et al., 2020). Some recommendations for improving multiculturalism and diversity include providing cultural training to develop competence, offering financial support to aid in increase BIPOC participation, and including participation within educational settings. Outcome measures relating to equity with opportunities for revisions of related tasks and efforts can also be used, as well as raising voices of BIPOC individuals during training creation, and maintaining ongoing self-reflection within personal and professional capacities (Akpapuna et al., 2020).

A common theme that there is a need for improved training. Adequate diversity training may be lacking. For instance, Beaulieu et al. (2018) conducted a survey of current

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Behavior Analysts to gather demographic measures, as well as measures of cultural knowledge and perceived importance of cultural knowledge. A majority of respondents identified as white (84%), and remaining respondents identified as minorities (16%), with no more that 6% for a single minority demographic. From these respondents, approximately 58% indicated that training to work with individuals from diverse backgrounds was extremely important, while only 23% of respondents reported being extremely skilled at this task. A contributing factor to this could be those respondents being exposed to limited training and coursework on related topics, with 47% reporting little training and 35% reporting none at all.

CBI-based Training within Organizations

Diversity training has been introduced in many settings, including educational and workplace settings. These trainings commonly take the form of a computer Based Instruction (CBI) presentation which is either presented to members or provided for independent review. These presentations often stress an organization's vision and mission statements or values that relate to diversity. There has been recent expansion to identifying a few basic terms, demographics, and role-play scenarios (Galaviz, 2016). Johnson and Rubin (2011) completed a literature review of CBI studies which were published between 1995 and 2007. Critical components identified for effective instruction using CBI include active engagement via interaction components, immediate feedback, prioritizing learning, and requiring overt responses from learners. Interactive CBI was identified as the most effective form of CBI and thus became the focus of the review.

However, despite its importance, interactive CBI accounted for only 79 of the 911 articles which were filtered through the first inclusion criteria. The identifiers which would indicate effective training used in this review include requiring composed responses, targeting mastery, and contingent specific feedback. There were three goal categories for which each article was labeled as (1) education, (2) training, (3) life skills. When reviewing the articles which were labeled as a training goal, there were only five articles that targeted mastery. All required a selection-based response, but only one provided contingent-specific feedback, where the other four provided contingent non-specific feedback. There were CBI applications which used all the recommended best practices for training. With this review serving as the only review of CBI use in the literature, the most frequently empirically-evaluated applied components for a training-based CBI include, self-paced speed, selection-based responses, contingent non-specific feedback, and omits mastery criteria for acquisition (Johnson & Rubin, 2011).

Chang et al. (2019), concluded that training which resembles that of the typical trainings provided, do not lead to long-term behavior change. Such trainings frequently include CBI-based presentation of information, a test, and strategies for overcoming biases and stereotyping. Participants who had already indicated being the least supportive of women, post-training, were more likely to acknowledge discrimination and express support for policies to support women and minority groups. However, there was no evidence of change for those that previously indicated support for women and minority groups. Evidence indicated that there was little-to-no change in behavior of men, or white employees overall, with some minor behavior change with women, which centered mostly

around engaging in behaviors for their own professional advancement (Chang, et al., 2019).

The frequent components of most available diversity trainings consist of a CBI-based presentation, followed by a quiz, with varying features such as scenarios, practice, and practical tips. Essential components of trainings to be targeted for optimization should ensure practical skills can be extracted from the trainings and applied to real-life settings. This opportunity is one that should immediately draw attention and response from the field of ABA. These common examples of CBI-based trainings conducted in the workplace do not align with the critical components that Johnson and Rubin (2011) outlined in their article. Meaningful responses are not achieved through selection-based responses, as those may not generalize to the natural environment. Furthermore, mastery is not targeted to ensure the skills or knowledge are within the learner's repertoire, and feedback is not consistently provided, or may lack immediacy or specificity.

It is possible that CBI as it is typically applied may not promote fluency and mastery. While CBI typically provides practice there is a lack of rehearsal beyond the typical multiple-choice format, as would be found with a composed response format (Johnson & Rubin, 2011). In CBI, participants are frequently provided a list of multiple-choice options to choose from. With this format, they are not required to recall specific information learned or compose a response. This may not transfer to a real-life situation, as people are not typically provided with options to choose from in a natural setting and are typically required to provide open-ended responses. Thus, a training method that calls for open-ended responses may be ideal for promoting transfer to the natural environment.

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The components of practice and feedback are frequently employed when fluency is an aim for skill acquisition. When fluency is targeted and acquired, a benefit that has been indicated by research, is increased retention (Coughty et al., 2004). While maintenance of a skill requires contacting relevant contingencies across time, trainings which target fluency, utilizing interactive, and open-ended methods, aid in longevity of skill retention within relevant repertoires. Fluency-based procedures are components that require relatively low time commitments. Training could be developed with fluency-based components while still maintaining an appropriate duration, but increasing testable skills acquired during training. Doughty et al. (2004) also found that learners preferred rate-building (which targets improving accuracy and increasing response rate to build fluency) over traditional teaching methods. This further solidifies the importance of methods designed to increase fluency and fast recall of information, such as rehearsal through composing a response. While these are broadly known within the field to be beneficial to skill acquisition, within the research, it is evident that issues of fidelity and consistency, in terms of delivery of feedback or implementation of practice components are lacking. While this may present as a gap within the technological toolbox within ABA and OBM practices, there are various evidence-based instructional procedures which can be applied that utilize practice and feedback with consistency and fidelity.

SAFMEDS as a Tool for Fluency

A commonly used rehearsal and assessment procedure, SAFMEDS, or "say-all-fast minute-every day-shuffled," centers around the interactive components which

fuel acquisition of new skills, as well as maintenance of skills already within the learner's repertoire. This procedure was established in 1978 by Ogden Lindsley and Steve Graf and has since been utilized mostly within educational and therapeutic settings. SAFMEDS is categorized as a precision teaching strategy, which aims to increase accuracy and fluency. For a basic SAFMEDS procedure, the learner is presented with a visual stimulus (e.g., flashcard with textual), and a vocal response is required. This is widely referred to as a see-say learning channel (Quigley et al., 2017). Quigley et al. (2017) outline a SAFMED procedure, step-by-step is as follows:

1. Deck is held by learner

2. Cards are shuffled

3. Timer is set for one minute

4. Learner sees front of card, and says corresponding information found on back, as fast as possible

5. Card is turned over to verify correctness of answer

6. Cards are sorted into correct and incorrect piles, relative to response

7. A count is collected for each pile after the time expires

8. Performance is charted for later review and revisions to instruction

9. Learner repeats daily

While having experience with the use of flashcards to acquire or maintain knowledge via study practices is not uncommon, the SAFMEDS procedure requires a

specific process to ensure effectiveness in acquisition. Following the previously outlined steps aligns with procedural fidelity. However, it is not uncommon for there to be modifications depending on the needs of the learner or variations in the terminal goal of instruction. Since terminal goals may be different across learners, it is important to note that there have been benefits identified beyond increasing accuracy and fluency. Graf and Auman (2005) outlined the acronym REAPS to represent the additional contributions that fluency-based instruction provides. REAPS indicates that fluency also leads to: (1) retention of skills and knowledge, (2) endurance of attention and performance, (3) application to subsequent learning, (4) performance aims of speed and accuracy standards and (5) stability in terms of resistance to distraction. The multitude of benefits that can be derived from implementing fluency-based instruction, such as SAFMEDS, is evident within the literature. However, solely citing the use of practice and feedback as the pillars of success would be an incomplete analysis. Rate of reinforcement should also be considered as another factor rooted in the principles of Behavior Analysis which facilitates the success of SAFEMED procedures (Quigley et al., 2017).

Stockwell and Eshleman (2010) evaluated the effects of a SAFMEDS procedure on fluency of emitting responses during a one-minute timing, for Skinner's verbal behavior definitions. Responses were categorized as "correct" for accurate responses, and "not yet" for incorrect responses. The standard procedure for SAFMEDS was utilized, and data collection was recorded on a standard celeration chart over the three-week period and for subsequent follow-up timings, which served as maintenance probes. Findings indicated that the implementation of the SAFMEDS procedure resulted in improvements in

performance, which was indicated by an increase in correct responses and a decrease in "not yet" responses, over time. Correct responding was found within a range of 16 to 44 per minute during the intervention condition, and a range of 32 to 42 correct for the maintenance condition (Stockwell et al., 2010).

Applications of SAFMEDS in educational settings, (such as the aforementioned study) account for the majority of the SAFMEDS literature. This may present a gap in the current literature. While SAFMEDS was initially targeted for use within education, applications outside of education are also applicable, but have yet to be studied, with the exception of therapeutic settings. Graf and Auman (2005) posit that effects of gaining fluency for a skill include confidence in performance capabilities, generativity with skills not targeted for practice, and stress inoculation via small doses of acquisition which can assist with later challenges. Implementation of fluency-based procedures, such as SAFMEDS within novel settings could provide a range of benefits for the performer. These benefits to the learner lend well to acquiring fluency within a range of domains, such as social skills, cultural competence, diversity knowledge, and the verbal behavior required to express acquired knowledge and skills. Filling the gaps within the literature (related to both diversity repertoires and SAFMEDS applications) requires examining the generality and behavioral dimensions of ABA. SAFMEDS remains a tool within the ABA toolbox, which can be applied in ways that are not reflected in the current literature. This evidence-based procedure can lead to novel strategies for acquiring new socially significant behavioral repertoires and replace less efficient educational practices. Therefore, the purpose of the present study was to evaluate and compare the effects of using a SAFMEDS training

model versus a selection-based CBI training model to train diversity terms. The

participants were college students and the study took place in a laboratory setting.

Chapter 2: Method

Participants

      Participants included five graduate students, studying applied behavior analysis and/or organizational behavior management, at a southeastern university. Participants' ages ranged from 21-25 years old, and included four females and one male. Further demographic information was collected from all participants. The first participant identified as female, Asian, Black, and White, with an ethnic identity of Asian, Non-Hispanic, with no religious or spirituality affiliations, American by nationality, with a political affiliation to the American Independent party, and a background from a stepfamily composition. The second participant identified as female, Asian, Non-Hispanic, with a religious affiliation to Dao and Buddhism, Taiwanese by nationality, with no political affiliations, and a background from a nuclear, and extended family composition. The third participant identified as male, White, Hispanic, with a religious affiliation to Christianity, American by nationality, with a political affiliation with the American Republican party, and a background from a nuclear family The fourth participant identified as female, White, Non-Hispanic, with no religious or spirituality affiliations, American by nationality, a political affiliation to the American Independent party, and a mixed background of family composition (i.e. nuclear, single, extended, step, and adopted family), primarily with an adopted family. The final participant identified as female, White, Non-Hispanic, religiously affiliated with the Satanic Temple, American by nationality, with a political

affiliation to Democratic Socialism, and a background from a divorced, co-parent family composition.

Students were recruited through a course. A percentage of their grade was based on research participation, which was outlined by the instructor on the first day of class, as well as stated in the syllabus. During recruitment, the instructor posted a slide during class describing an opportunity to participate in the study for credit, accompanied by the primary researcher, who provided additional information on the study. Students were prompted to email the primary researcher for more information. Inclusion criteria for the study includes those potential participants have access to a reliable internet connection, as the study will be run over Zoom®. Once the participants reached out to the researcher expressing interest, they were emailed an informed consent document (refer to Appendix A). Upon receipt of the signed informed consent form, the primary researcher scheduled the participants to collect baseline data. To avoid a ceiling effect from occurring during baseline, participants only advanced beyond the baseline condition if they scored below 30%, for the initial baseline probe. All potential participants that participated in the initial baseline sessions scored below 30% correct, and advanced within the study. Participants that were selected for the study were assigned gender neutral pseudonyms, and will be referred to as the pseudonyms, (1) Alex, (2) Jordan, (3) Taylor, (4) Armani, and (5) Ezra.

Settings and Materials

The study was conducted over Zoom®. Materials included, a computer with high-speed internet and a camera for recording purposes, access to Canvas to complete the CBI

program, flashcards (i.e., basic ruled, lined index cards), data sheets, a social validity questionnaire (see Appendix B), and demographic survey (see Appendix C).

Dependent Variables and Measurement

The dependent variable assessed in the study was the frequency or number of correct responses provided to for the definition of diversity-related terms. For the assessment, the researcher verbally delivered the term and the participant was given the opportunity to vocally respond with the corresponding definition. Terms are included below (see Appendix D). An example of a correct response to a term would be a vocal response which shared at least 100% point-to-point correspondence with the *key* words within each definition for the corresponding term. A nonexample would be if the vocal response provided had less than 100% point-to-point correspondence with the *key* words within the definition. If participants self-corrected, their response was scored as correct. Participants were trained and vocally quizzed on a total of 40 terms, between the two sets. These terms were developed to require approximately the same amount of response effort. In other words, roughly the same number of words were required to be recalled. 20 terms were randomly assigned to each different training condition. Once randomly assigned to a specific training condition, the terms remained the same across sessions for that training condition. In other words, the experimenter vocally quizzed the participant over the same set of 20 terms repeatedly and each vocal quiz served as a data point. To help increase internal validity and eliminate the prospect of a participant achieving a higher score solely due to one set of 20 terms potentially being "easier" than the other set of 20 terms, the

assignment of each set of 20 terms to a training condition was counterbalanced across the participants. To help highlight the counterbalancing efforts, one set of 20 diversity terms will be referred to from here on as "diversity terms A" and the next set will be referred to as "diversity terms B". Again, despite the difference in reference to each set, they were generated to be approximately equal in difficulty and each set was randomly assigned to a condition and counterbalancing was used. For instance, half of the participants learned diversity terms 'A' through CBI and diversity terms 'B' through SAFMEDS while the remaining half learned diversity terms 'A' through SAFMEDS and diversity terms 'B' through CBI. Please refer to Appendix F for the datasheet.

Interobserver Agreement

The procedure used to collect IOA was trial-by-trial. The formula was number of trials of agreement/total number of trials multiplied by 100. An independent observer reviewed the Zoom® recordings and scored 33% of the sessions. An agreement was defined as when both observers scored the same trial as correct or incorrect. A disagreement was considered to have occurred when observers indicated different scores, such as observer one scoring the response as correct, and observer two scoring the same response as incorrect. The observer was trained until they reach 90% agreement, during training. IOA collected for actual sessions reflected 100% agreement.

Procedural Fidelity

Procedural fidelity was assessed by an independent observer, based on the researcher's performance of the SAFMEDS and CBI procedures. The observer used a checklist (Appendices F & G) while reviewing recorded sessions. Procedural fidelity was assessed for 40% of total sessions across all participants. Procedural fidelity for reviewed sessions reflected 100% procedural fidelity for applications of both the SAFMEDS and CBI training models.

Independent Variables

SAFMEDS Training Procedure

The SAFMEDS procedure was implemented as one independent variable or training condition. This procedure used a see-say approach in which the researcher presented a flashcard with a textual of a diversity-related term. The participant had an opportunity to provide the answer vocally. Contingent on a correct response, the researcher moved on to the next flashcard and repeated the process. Contingent on an incorrect response, the researcher flipped the card and displayed the textual prompt which contained the correct response to the diversity-related term, which the participant then read aloud. The procedure was duplicated with the same term if the participant answered incorrectly until the correct response is emitted. Quigley et al., (2017) outline the steps for completing the traditional SAFMEDS procedure which was used within this study, with some modifications. From the steps outlined by his procedure, the following steps were maintained within this study: (1) learner sees front of the card, and says the corresponding

information on back, (2) card is turned over to verify correctness of their answer, (3) A count will be collected for incorrect and correct responses.

The SAFMEDS training procedure was implemented for an allotted 60-minutes with each participant, per session. However, most participants took less time, given that they went at their own pace. Once participants reached at least 90% correct responding for the set of terms, they moved on to data collection.

CBI

The CBI procedure required retrieval of a presentation through Canvas. This training mirrored a typical training provided by companies, maintaining the critical components of a CBI-based presentation of diversity-related information, followed by a selection-based response quiz to test participants' acquired knowledge from the content (Chang, et al., 2019). Similar to the SAFMEDS training procedure, participants were required to score at least 90% on the quiz prior to progressing on to data collection. Similar to many CBI trainings, the participants were allowed to go at their own pace through the content and progress to answering the questions. A total of 20 selection-based multiple-choice questions were presented on the quiz based on the terms they would be tested on in the experimental procedure (See Appendix E). If they achieve a score lower than 90%, they received feedback on which answers were incorrect as well as the correct answers. They then had the opportunity to review the same content and answer the same questions again until a 90% was achieved. Participants were allotted 60 minutes. However, most took less time, given that this was self-paced.

Research Design

An adapted alternating treatments design (AATD) was used to determine the differentiated effects of the two instructional approaches (e.g., SAFMEDS vs. CBI). This design consisted of a baseline condition, during which participants engaged in two sets of responses which had performance equivalence, followed by the comparison condition. The comparison condition consisted of rapidly alternating between the two training applications (and diversity terms) with no more than two data points being collected for each condition per session (Cooper, Heron, & Heward, 2020). Diversity terms A or B were presented during each session to each participant based on the condition each set was assigned to. Terms were assessed to verify the level of difficulty to be equal across all sets of terms. To further protect the internal validity of the study, as mentioned, diversity terms 'A' and 'B' were counterbalanced across the two conditions.

The comparison condition was followed by a "best alone condition" to rule out sequence effects and finally a maintenance condition to assess if the effects from the best alone intervention maintained.

Procedures

The researcher began the first session by obtaining informed consent. After reading informed consent, all participants that indicated interest, chose to participate in the study and advanced to baseline.

Baseline

Baseline probes were collected with a hear-say approach. This involved the researcher vocally stating the term, and the participant vocally responding. Researchers began by collecting baseline data on each set of 20 diversity terms separately (e.g., diversity terms 'A' and diversity terms 'B'). All participants scored below 30% for the first data point for each set, thus researchers continued collecting more data, gathering 5 data points for each term set, for the baseline phase. No participants scored at or above 30% for either set of diversity terms, therefore, none were dismissed from the study. Following baseline, participants were randomly assigned to learn each set of 20 terms using a certain instructional approach (SAFMEDS or CBI).

Training Condition

One training session was held at the beginning of each condition that consisted of up to 60-minutes of training in which the participants utilized the designated instructional method to learn diversity-related terms according to each intervention phase described above. When participants were exposed to the SAFMEDS procedure, they were trained on each of the assigned 20 cards, depending on the assigned diversity terms. When participants were exposed to the CBI condition, they were allotted 60-minutes to review the training and complete the brief quiz at the conclusion of the content, which covered the other set of diversity terms. Once participants scored within the criteria to indicate that they have mastered training, they were scheduled for their first comparison session.

Comparison Condition (SAFMEDS vs. CBI)

While multiple sessions or data points were collected during each meeting, data collection took place over the course of four meetings and the participants were given the opportunity to re-review the training materials and meet mastery criteria at the beginning of each meeting prior to data collection. Although they were provided 60 minutes, these review sessions typically took no more than 20 minutes.

Within the comparison condition, participants were exposed to the SAFMEDS condition they reviewed the assigned flashcards which were utilized during the previous training following the same procedure as in the training condition. When participants were exposed to the CBI condition, they could review the same training and were evaluated on identical questions at the completion of the content. Participants were instructed with the following: "You will be evaluated on the same questions you encountered during the training phase last time. Please do your best to respond. You can go as fast as you would like and will be assessed on the same 20 questions you have encountered previously." Exposure to these treatment conditions alternated, with researchers collecting two data points for each training procedure prior to alternating to the next condition.

Best Alone Condition

To strengthen internal validity and rule out potential sequence effects, researchers ran a best alone condition. During this condition, participants only contacted one independent variable and its corresponding set of terms. The SAFMEDS procedure led to the best results in the comparison condition, thus it was selected as the independent

variable to be used during the best alone condition. There were no alternating components to this condition.

Maintenance

A maintenance measure was collected after 1 week of the conclusion of the study, which used the same hear-say approach as was used in testing for previous conditions. Participants were exposed to the same terms utilized during the best alone condition. The same data sheet used during intervention (see Appendix) was used for this condition as well.

Procedural Fidelity of SAFMEDS Procedure

A checklist detailing the steps of the SAFMEDS procedure was used to confirm correct implementation of the SAFMEDS procedure (see Appendix G). The observer used this tool while reviewing recorded sessions. Procedural fidelity for the implementation of the SAFMEDS procedure was scored to be 100% by the independent observer.

Procedural Fidelity of CBI Procedure

CBI procedural fidelity consisted of checking off the components of a typical CBI-based training procedure, (1) self-paced, (2) selection-based responses, (3) contingent non-specific feedback (Johnson & Rubin, 2011). Should the CBI-based training consist of these three components, it met procedural fidelity standards (See Appendix H). Procedural fidelity for the implementation of the CBI procedure was scored to be 100% by the independent observer.

Social Validity

The researcher administered a social validity questionnaire (see Appendix B) with all participants following the conclusion of the study. The questionnaire consisted of 10 statements to which participants responded to with a selection of a rating from 1-5, using a Likert-scale.

Chapter 3: Results

All participants who were tested in baseline met inclusion criteria for the present study. Following intervention, results demonstrated an increase in accuracy across all participants for all diversity term-definition correspondence. The mean baseline for all participants for both diversity terms 'A' and 'B' was 0 correct responses. The mean increase for correct diversity term definitions with the SAFMEDs model was 19.5 at the end of the comparison condition. The CBI model demonstrated a mean increase to 3.8 at the end of the comparison condition. Table 1 displays the average scores of each participant across interventions, term sets, and conditions. Figures 1-5 display the data for all participants across all conditions.

Diversity Terms A with SAFMEDS

Alex, Jordan, and Ezra were trained on diversity terms 'A' with the SAFMEDS model. Alex exhibited an increase in correct diversity terms from 0 in the last data point for baseline to 18 in the first data point for the comparison condition, with a maximum performance of 20 correct within the comparison condition. Within the best alone condition, Alex initially scored 20 correct, and maintained this throughout the condition, as well as in the maintenance condition. Jordan exhibited an increase in correct diversity terms from 0 in the last data point for baseline to 19 in the first data point for the comparison condition, with a maximum performance of 20 correct within the comparison condition. Within the best alone condition, Alex initially scored 19 correct, with a

maximum of 20 correct, and maintained 20 correct responses across all maintenance condition data points.

Ezra exhibited an increase in correct diversity terms from 0 in the last data point for baseline to 20 in the first data point for the comparison condition, with a maximum performance of 20 correct within the comparison condition. Within the best alone condition, Ezra initially scored 19 correct, with a maximum of 20 correct, and an initial score of 19 in the maintenance condition, with maximum performance of 19 correct.

Diversity Terms A with CBI

Taylor and Armani were trained on diversity terms 'A' with the CBI model. Taylor exhibited an increase in correct diversity terms from 0 in the last data point for baseline to 3 in the first data point for the comparison condition, with a maximum performance of 3 correct within the comparison condition. Armani exhibited an increase in correct diversity terms from 0 in the last data point for baseline to 1 in the first data point for the comparison condition, with a maximum performance of 2 correct within the comparison condition.

Diversity Terms B with SAFMEDS

Taylor exhibited an increase in correct diversity terms from 0 in the last data point for baseline to 19 in the first data point for the comparison condition, with a maximum performance of 20 correct within the comparison condition. Within the best alone condition, Taylor initially scored 19 correct, with a maximum performance of 20 correct within the best alone condition, and 19 correct across all maintenance condition data

points. Armani exhibited an increase in correct diversity terms from 0 in the last data point for baseline to 20 in the first data point for the comparison condition, with a maximum performance of 20 correct within the comparison condition. Within the best alone condition, Armani scored 20 correct across all best alone condition data points, and an initial sore of 19 and a maximum score of 20 during the maintenance condition.

Diversity Terms B with CBI

Alex, Jordan, and Ezra were trained on diversity terms 'A' with the CBI model. Alex exhibited an increase in correct diversity terms from 0 in the last data point for baseline to 3 in the first data point for the comparison condition, with a maximum performance of 5 correct within the comparison condition. Jordan exhibited an increase in correct diversity terms from 0 in the last data point for baseline to 1 in the first data point for the comparison condition, with a maximum performance of 5 correct within the comparison condition. Ezra exhibited an increase in correct diversity terms from 0 in the last data point for baseline to 10 in the first data point for the comparison condition, with a maximum performance of 13 correct within the comparison condition.

Social Validity

Social validity was evaluated on a 5-point Likert scale, with one as strongly disagree and five as strongly agree. Overall, participants scored the importance of diversity and cultural competence at a 4.2, indicating agreement. Participants also had an average score of 5 for the relevance of the terms that were presented in the trainings, indicating high social validity of the targets selected for training. While the targeted skills for training

were relevant, the average score for participant familiarity with the terms was 2.4, indicating that most participants did not agree that they were familiar with the terms trained, prior to the training.

The average score for the preference for the SAFMEDS procedure was 3.8, with three out of five participants rating preference as a 5, and the others reporting a preference rating of 3 and 1. While there was variation with the preference of the training models, the participants' average score of agreement with the statement "following training, I feel more confident in my understanding of the trained diversity terms" was a 4.6, indicating strong agreement in confidence in the acquisition of the diversity terms and corresponding definitions. Results of the social validity survey per participant, and averages for each statement can be found in Table 2.

Chapter 4: Discussion

The present study aimed to evaluate and compare the effects of a SAFMEDS training model versus a CBI training model, as it is typically delivered in practice, on the number of definitions provided for diversity terms. The results indicate that the SAFMEDS procedure produced a greater increase in accuracy of diversity terms, when compared to the traditional application of CBI, with a selection-based response requirement, which is typically delivered within organizational settings. While there was a slight increase in accuracy with the CBI training, when compared to baseline, Alex, Jordan, Taylor, and Armani increased from 0, to no more than 5 terms, with Ezra as an outlier, with an increase from 0 to 13 terms. All participants reached the maximum of 20 correct diversity terms with the SAFMEDS training model, across the comparison condition, as well as the best alone condition. This maintenance in high performance helps to rule out sequence effects as a potential explanation for high performance. Participants continued to accurately define 19 of the diversity terms, following one week, during the maintenance condition.

As noted in Johnson and Rubin (2011), CBI in organizational settings often omit the critical components which ensure acquisition of skills, which include practice opportunities, contingent specific-feedback, and targeting fluency. Chang et al. (2019) found that a CBI delivered diversity training did not produce lasting behavior-change when these same critical components were omitted. In order to compare what was typically seen in organizational settings, the typical components that are most often used in organizational settings were employed within the CBI condition (e.g., (1) self-paced, (2) selection-based

responses, (3) contingent non-specific feedback). This typical delivery of CBI did not produce the same skill acquisition as when other methods, such as SAFMEDS were used, that specifically target skill acquisition, and produced long-lasting effects. The use of fluency-based elements within a SAFMEDS model (e.g., repetition, targeting accuracy and speed, contingent, specific feedback) led to larger improvements in performance for the participants of the present study. As stated within Graf and Auman (2005), lasting behavior change was observed with the application of the SAFMEDS model, which included retention of skills and knowledge, endurance of attention and performance, and stability in terms of resistance to distraction.

These findings align with Lindsley and Graf (1978) who found that using a procedure that targets fluency, would result in efficient acquisition of new skills, which also maintain over time. While the present study did not explore a fluency measure, such as rate, for the primary DV, the SAFMEDS procedure targets fluency, and the diversity terms trained with this method did result in an efficient acquisition of new skills, and accuracy remained high during subsequent maintenance sessions.

With the limited research on the use of SAFMEDS outside of educational and therapeutic settings, this study confirms the versatility of the training procedure, which extends the claims of Graf and Auman (2005), that the procedure would produce lasting effects, even in novel environments. The modified SAFMEDS procedure that was used, which did not include a daily component, could easily be incorporated into an organizational setting to promote skill acquisition, and lasting behavior-change. While this study was not conducted in an organizational setting, the delivery of the training procedure

could easily be adopted in an organizational setting, targeting necessary skills to build cultural competency. Although, it is important to note that CBI models are frequently used in organizational settings likely due to high social validity. The typical delivery of CBI is generally familiar to most consumers, and can be self-paced. The SAFMEDS model would require more effort, and individual attention to each consumer, which may result in a decreased preference for organizations if it required additional time and resources.

However, if the target is to produce lasting behavior-change, targeting fluency is ideal. With respect to DEI initiatives, fluency of terminology is crucial. When discussing DEI terms or concepts, accuracy in the knowledge, or tacting the correct terminology and corresponding definitions can result in increased opportunities to engage in beneficial discourse on difficult topics relate to DEI. Should one simply be able to recognize a term, rather than have the skill to say the correct term in the appropriate context, their access to reinforcement would be limited. The acquisition of the later skill could be considered a behavioral cusp, which provides for access to reinforcement in a multitude of future contingencies (Cooper, Heron, & Heward, Applied Behavior Analysis, 2020).

Basic Principles of Effective Training

When comparing the two training procedures, the SAFMEDS training which was comprised of the elements found greater improvement in accuracy of diversity terms. While both the SAFMEDS and the CBI procedures included an opportunity for practice, as within the review sessions available during each session, SAFMEDS allows for a more active use of the practice element. The typical CBI delivery for diversity training, within

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organizations, provides feedback, but it is typically non-specific feedback, such as in the present study, that only provides a correct or incorrect feedback delivery message. Within the SAFMEDS procedure, the textual feedback for incorrect responses implements immediate feedback, and allows for multiple practice opportunities which were also followed by additional delivery of immediate feedback on accuracy. The immediacy of feedback frequently interrupted the incorrect response, reducing the opportunities for participants to engage in errored responses. The multiple practice opportunities allowed for repetition of the correct response, thus further solidifying the correct response within the participants repertoire.

Positive feedback was also delivered for correct responses, which was delivered vocally, as well as graphically, with a standard celeration chart to provide feedback on fluency during training, and review. The element of fluency being employed within the SAFMEDS procedure is arguably the most important component of the SAFMEDS training, as it combined the effects of practice and feedback to ensure adequate acquisition of skills that were targeted within the present study.

Noteworthy Finds

The social validity questionnaire provides insight on the value of the skills being trained, as well as the acceptability of the training methods. While participants had varied previous exposure to the terms that were presented, the terms were not considered difficult. Participants all reported agreement that the diversity terms trained were both 'relevant' and

'meaningful', which highlights the social significance of the study, and the specific skills taught to participants.

There were differences in preference for the training procedures used, amongst the participants. Differences in preference may be due to the difference in response effort seen across the two training models. Although the SAFMEDS model provided greater increases in skill acquisition, it did require elements such as repetition, and error correction which interrupted responding. These elements may have aversive properties for some participants. The effort in terms of responding and duration of the completion of training using the SAFMEDS model may also present as aversive for some of the participants, thus influencing their preference. It is also important to note that the CBI model did not require a robust social interaction component, as the SAFMEDS model did. This may also present a preference for the CBI model, as there is no social component, and feedback was delivered via the Canvas system, rather than by another individual.

Learning history should also be considered in the variability of social validity responses across participants. Statements and agreement related to exposure to similar CBI trainings for diversity and preference exhibited an interesting trend. The two participants that had previous exposure to a similar CBI model for diversity training, also scored lower for their preference for the SAFMEDS model over CBI. The familiarity, or potential for alternative studying methods for information presented in CBI trainings could provide an explanation for the difference in preference. All other participants scored strongly disagree for being exposed to similar CBI training, and also scored strongly agree for the preference for the SAFMEDS model. Interactions with learning history should be considered when

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employing these methods, although it is likely impossible to provide trainings to a group which all shares the same, or similar learning history with selected training models. The overall agreement with the preference statement maintains that most participants at least agreed, or strongly agreed that SAFMEDS was the preferred model. If aversive elements can be reduced while still attaining significant results, this should be attempted for future applications.

Limitations and Future Directions

While participants were instructed not to study diversity terms outside of their participation within the study, it is beyond the control of the researcher to maintain absolute confidence that participants did not contact supplemental materials. Contact with supplemental materials could potentially alter the results of their acquisition of the diversity terms. This presented a potential limitation to the findings of the study. It should be taken into account that participants would have had an equal opportunity to contact with information from either diversity term sets. A significant difference was anticipated to be maintained between the acquisition of terms in diversity terms A and diversity terms B, relative to the training procedure used, with the SAFMEDS procedure consistently more effective than the CBI procedure for all participants. It should also be noted that these procedures were compared as individual procedures, but there is evidence to support that there are interactive CBI-based trainings available that do target mastery, as the SAFMEDS procedure does, although they are not widely implemented within organizations. The participants who took part in this study were also at the graduate-level. This population may have more exposure to topics and information that relates to diversity

awareness or competence, thus acquiring these terms may have required less response effort than other potential populations, as they may have had general knowledge about many of the terms taught. However, during baseline there was zero-to-near-zero correct responses. This may be due to lack of maintenance of skills, or exposure to different, or potentially outdated or inaccurate definitions for the terms presented. The participants that were part of the present study were also familiar with both training models as well. This exposure can be tied to their similar education history with studying applied behavior analysis and/or organizational behavior management.

Another potential limitation which refers to the use of training on terms related to DEI demographics, is that some terms may be fluid, and may change across time. The terms that were selected for the present study were more concrete, but there may be some differences in what would be considered an accurate definition for some terms (e.g., pansexual, asexual). This should be considered for future replications of the present study. The similarity in the SAFMEDS procedure and the testing conditions should also be noted, while for both the SAFMEDS and the CBI procedure, participants were exposed to a textual of the term and the definition, the requirement for the participants to say the definition was the same in the SAFEMDS procedure and the testing procedure, although the SD was delivered via different mediums (i.e., textual vs vocal).

Future directions could include replications which target different populations with varying demographics, ages, education levels, etc. While SAFMEDS is an evidence-based procedure, there may be a difference in the data with differing populations. Future research could also target more complex behaviors relating to diversity and cultural competence.

The present study is intended to serve as a first step toward building competence of diversity by teaching common terms associated with diverse communities. In real life situations, knowledge engaging in verbal behavior on topics of diversity will require more than terms. Extensions of this study could include teaching strategic rules to be used when discussing and seeking cultural information from individuals that identify with various cultural groups with diverse backgrounds.

Implications for Practice

With the modified SAFMEDS procedure that was used in the present study resulting in skill maintenance, future applications of the modified SAFMEDS procedure could be tested for effectiveness is teaching different skills. The use of reduced practice sessions in building fluency, may still also serve as an effective method for training skills which maintain over time. The reduction in response effort which would be made by the removal of a daily component of the model may influence social validity and increase the use of the procedure.

In organization settings, the modified SAFMEDS procedure could be added to trainings which are delivered via CBI, as an additional component. Whether incorporating SAFMEDS into a previously used model for training, or replacing the previous model with SAFMEDS, the focus on fluency and mastery of the targeted skill would be applied. If incorporated into a CBI model, this could result in a cost-effective model, which can be used outside of educational settings. Improvements in training outcomes may also be achieved through the addition of a fluency-based procedure, such as SAFMEDS to a

training. If organizations are targeting positive outcomes, which result in lasting behavior change, trainings which incorporate fluency-based procedures should be heavily considered, due to the lasting effects beyond the skill acquisition phase.

Chapter 5: Conclusion

The results of this study are clear and display a substantial difference in the acquisition of diversity terms when comparing SAFMEDS and CBI-based procedures. With increases in frequency of stating diversity term definitions increasing as much as 0 to 20, the SAFMEDS procedure exhibits not only effectiveness, but superiority to using a CBI-based procedure, as it is typically used in organizational settings, in isolation. The SAFMEDS procedure should be considered by organizations when delivering diversity training if thegoal is acquisition of skills which will aid employees in engaging in more informed discussion and knowledge-based repertoires relating to cultural and diversity competence.

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Table 1

Average Scores for Participants Across Interventions, Skills, and Conditions

Participant	SAFMEDS				CBI		
	Baseline	Comparison	Best Alone	Maintenance	Baseline	Comparison	Best Alone
	Diversity Terms A				Diversity Terms B		
Alex	0	19.5	20	20	0	3.7	
Jordan	0	19.2	19.7	20	0	2.8	
Ezra	0.1	19.8	19.7	18.7	0	9	
	Diversity Terms B				Diversity Terms A		
Taylor	0	19.3	19.2	19	0	2.2	
Armani	0	19.7	20	19.3	0	1.3	
Average	*0*	*19.5*	*19.7*	*19.4*	*0*	*3.8*	

Note. This table displays the average scores of each participant across interventions, skills, and conditions. Blank cells indicate that data were not collected for that skill during that condition.

Table 2

Social Validity Results

Statement	Participants					
	Alex	Jordan	Taylor	Armani	Ezra	*Average*
Diversity and cultural competence are important to me	4	5	3	4	5	*4.2*
I am likely to engage in tasks to learn about culture	4	4	3	4	5	*4*
The terms presented on cultural diversity were relevant	5	5	5	5	5	*5*
The terms presented in the trainings were difficult to learn	2	2	3	2	3	*2.4*
I am familiar with the terms presented	2	2	1	2	5	*2.4*
The information related to diversity that I learned was meaningful	4	5	5	4	4	*4.4*
I will likely use SAFMEDS In the future to study terms and/or concepts	5	3	5	5	1	*3.8*
I preferred the SAFMEDS procedure over the computer-based instruction	5	3	5	5	1	*3.8*
I have taken, or been exposed to diversity training that was similar to the computer-based instruction training	1	5	1	1	5	*2.6*
Following training I feel more confident in my understanding of the trained diversity terms	5	5	5	5	3	*4.6*

Note. This table displays the results of the social validity survey. Participants rated each

statement using a 5-point Likert scale, with 1 as strongly disagree and 5 as strongly agree.

Higher numbers indicate greater agreement with the statement.

Figures

Diversity Term Accuracy: A Comparison of SAFMEDS and Computer-Based Instruction

Alex

Taylor

Armani

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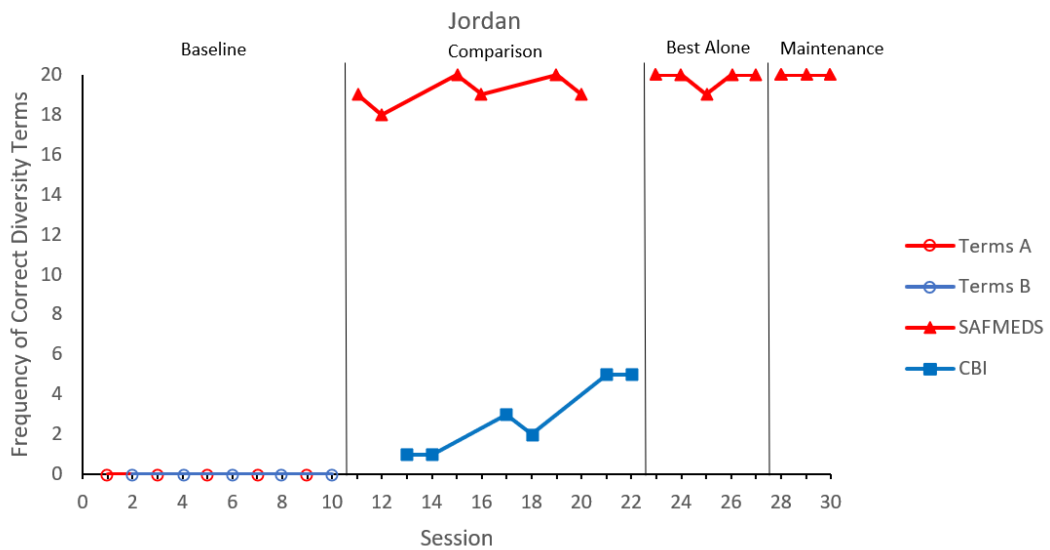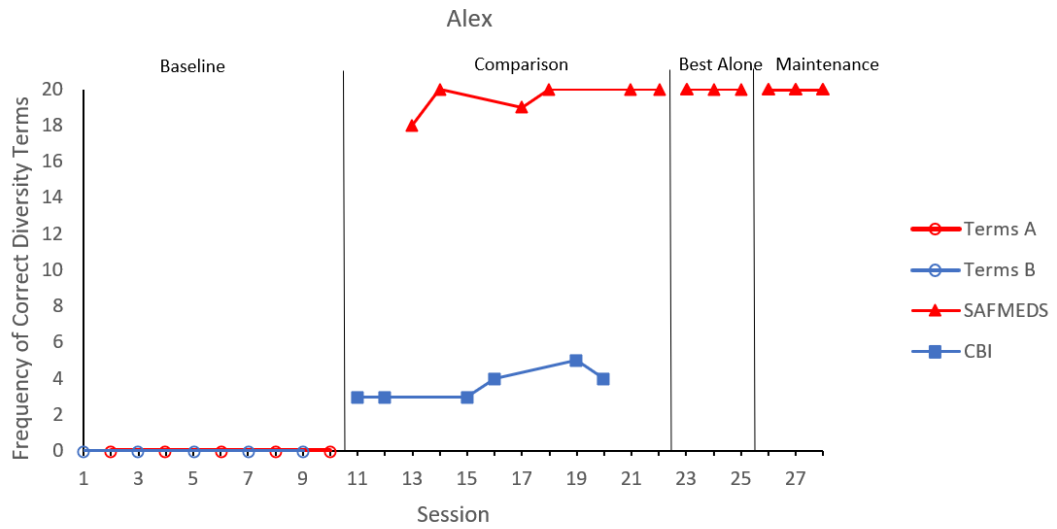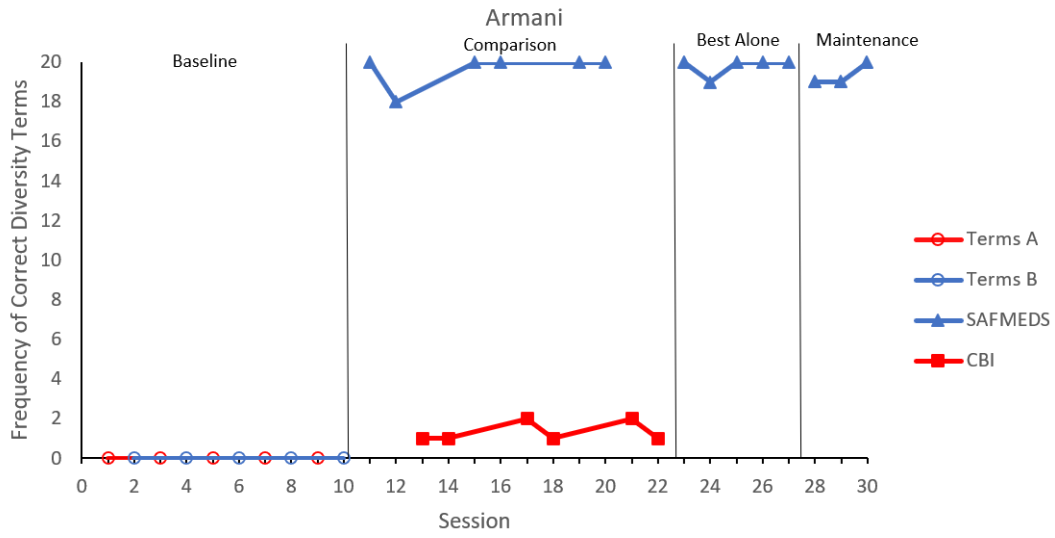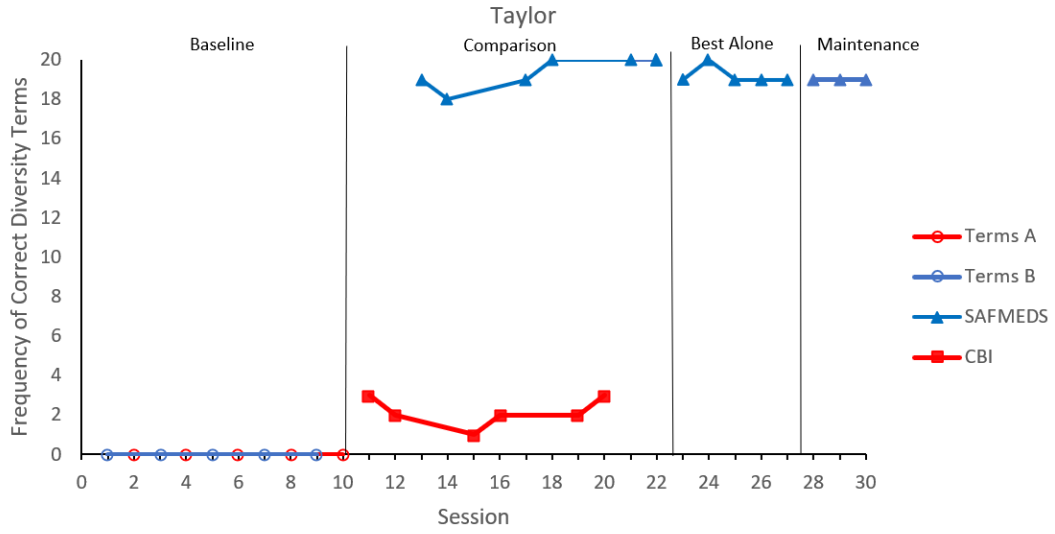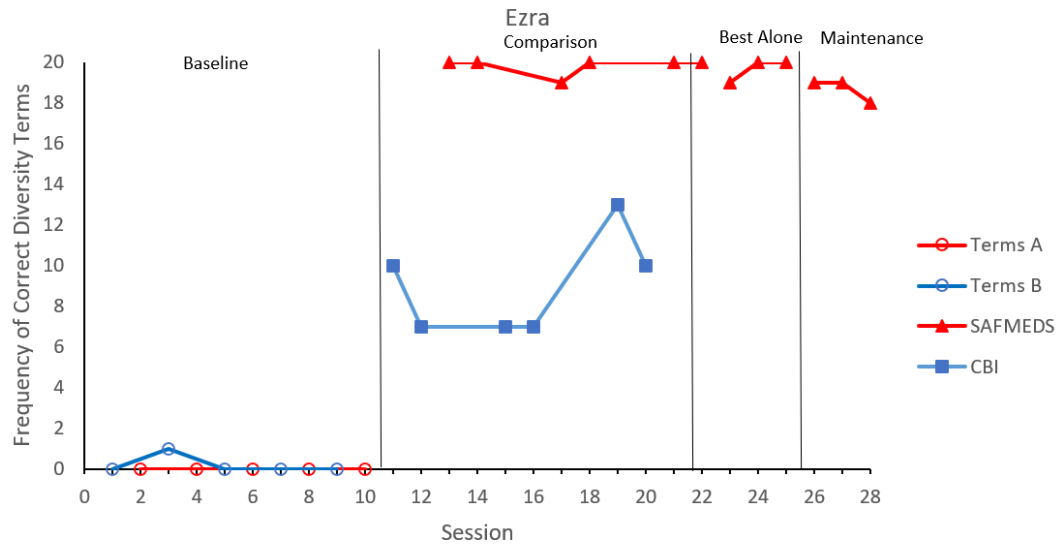
Note. The figure displays the change in number of correct diversity terms provided across five participants.

Appendices

Appendix A: Informed Consent Form

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**RESEARCH INVOLVING HUMAN PARTICIPANTS
INFORMED CONSENT**

Please read this consent document carefully before you decide to participate in this study. The researcher will answer any questions before you sign this form.

Study title ___ Diversity Fact Fluency: A Comparison of SAFMEDS and Computer-Based Instruction Training Models ___

Purpose of the study

> The purpose of this study will be to evaluate and compare the effects of a SAFMEDS training model versus a CBI training model on the number of correct responses to open-ended questions regarding diversity facts. Participants will be selected for students enrolled in a course offered by the school of behavior analysis.

Procedures

> Participants will be trained on diversity-related facts using two different training models, which will include a typical computer-based training and a flashcard procedure. For the computer-based training, participants will review a PowerPoint® presentation and answer questions based on the reviewed content. For the flashcard procedure, participants will learn diversity facts with automated flashcards via Quizlet®, facilitated by the experimenter, with a see-say format. After training occurs, in separate sessions, participants will have the opportunity to practice/review content for content covered in the computer-based training and the flashcards training. Following the brief practice/review, participants will be asked to provide the diversity facts to

Potential risks of participating

> Potential risks include participants may experience temporary negative emotions, such as frustration or boredom. To mitigate these risks, the experimenters will provide information regarding the content of the study, and the sessions will not exceed 1 hour.

Compensation

> There will be no monetary compensation. However, participants will be pulled from a course which requires participation in research, and provides points towards final grades, to students that participate.

Confidentiality

> Your identity will be kept confidential to the extent provided by law. Your information will be assigned a code number, instead of any personally identifying information. The list connecting your name to this number will be kept in a locked file on the primary investigator's computer. Your name will not be used in any report. Information will be kept and stored for 3-7 years following the conclusion of the study. After this time, all relevant files will be permanently deleted from the primary investigator's computer.

Voluntary participation

> Your participation in this study is completely voluntary. There is no penalty for not participating. You may also refuse to answer any of the questions we ask you.

Right to withdraw from the study

> You have the right to withdraw from the study at any time without consequence.

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Appendix B: Social Validity Questionnaire

Question	Rating				
Diversity and cultural competence are important to me.	5	4	3	2	1
I am likely to engage in tasks to learn about culture.	5	4	3	2	1
The terms presented on cultural diversity were relevant.	5	4	3	2	1
The terms presented in the trainings were difficult to learn.	5	4	3	2	1
I was familiar with the terms presented to me prior to training.	5	4	3	2	1
The information related to diversity that I learned was meaningful.	5	4	3	2	1
I will likely use SAFMEDS in the future to study terms and/or concepts.	5	4	3	2	1
I preferred the SAFMEDS procedure over the computer-based instruction.	5	4	3	2	1
I have taken, or been exposed to diversity training that was similar to the computer-based instruction training.	5	4	3	2	1
Following training, I feel more confident in my understanding of the trained diversity terms.	5	4	3	2	1

Appendix C: Demographic Survey

Demographic Survey

Please complete the following demographic information. Please note that all personal information will be kept confidential. For sections which do not have a response option that aligns with your identity, please fill in accurate demographic information in the 'other' section, on the provided line.

Question	Response Options
What is your age?	_____
What is your racial identity?	(1) American Indian or Alaska Native (2) Asian (3) Black (4) Native Hawaiian or Pacific Islander (5) White
What is your gender identity?	(1) Male (2) Female (3) Gender Fluid (4) Genderqueer (5) Non-Binary (6) Transgender (7) Two Spirit (8) Other:_____
Do you follow any religious or spiritual philosophies?	(1) Yes If yes, please specify:_____ (2) No
What is your ethnic identity?	(1) Hispanic (2) White, non-Hispanic (3) Black or African American, non-Hispanic (4) Asian, non-Hispanic (5) Native Hawaiian, non-Hispanic (6) Other:_____
What is your nationality?	_____
What is your political affiliation?	(1) American Independent Party (2) Communist Party (3) Democratic Party (4) Green Party (5) Libertarian Party (6) Republican Party (7) Socialist Party (8) Other: _____
What was your family composition throughout childhood?	(1) Nuclear family (2) Single Parent Family (3) Extended Family (4) Stepfamily (5) Grandparent Family (6) Adopted Family (7) Foster Family (8) Other: _____

Appendix D: Sample Diversity Terms

TERM	DEFINITION	TERM SET
Ableism	**Belief** that **disabled individuals** are **inferior** to **non-disabled** individuals.	A
Agender	Someone who **does not identify** with **any gender**.	B
Americans with Disabilities Act	**Law** which considers **rights** and **accommodations** for someone **diagnosed** with a **disability**.	B
Antiracism	To **oppose racial discrimination** by **advocating** for **change**.	A
Asexual	A person who **doesn't experience sexual attraction**.	A
Bipartisan	A **cooperative effort** by **two-political parties**.	B
Blended Family	Family consisting of a **couple** and their **children** from their **own** and **previous relationships**.	A
Citizen	Someone with **rights, duties**, and **privileges** provided by a **governing body**.	A
Classism	**Biases** that lead to the **unfair treatment** of others based on **socioeconomic status**.	B
Colorblind	To **ignore race** and **ethnicity** as a **part** of someone's **identity**.	B
Colorism	**Within-and-between-group favoritism** of **lighter skin** color.	A
Conservatism	View favoring **free enterprise, private ownership**, and **traditional ideas**.	A
Co-Parent	**Two** or more **adults** who **nurture dependent kids** together.	A
Cultural Assimilation	When an individual, or group **gives up** aspects of its **culture** to **adapt** to the **dominant culture**.	B
Ethnicity	Belonging to a **social group** with a **common culture**.	A
Ethnocentrism	Using a particular **ethnic group** as a frame of reference or **standard** to view the **world.**	B

Feminism	**Advocating** for **equity** between **men** and **women**.	A
Financial Asset	**Non-physical asset** whose **value** is **derived** from a **contract**.	B
Gender	**Socially constructed ideas** about **behavior**, and **roles** a of a certain **sex**.	B
Gender Binary	Categorizing **gender** into **two categories** of **male** or **female**.	A
Gender Dysphoria	Clinically significant **distress** related to **misalignment** of **assigned** and **expressed gender**.	A
Hispanic	Person with **lineage** to a **Spanish speaking country**.	B
Homophobia	**Irrational aversion** to, or **discrimination** against **homosexuality**.	B
Institutional Racism	**Institutional practices** which create **different outcomes** for different **racial groups**.	B
Learning Disability	**Neurological disorder** affecting one or more **areas of learning**.	B
Liberalism	View favoring **individual rights, civil liberties, democracy**, and **free enterprise**.	B
Metaphysics	Philosophy that explores **events** that have **no physical**, **scientific explanation**.	A
Nationalism	**Pride** of one's **country**, and the **belief** its **more important** than others.	A
Neurodiversity	**Belief** that **brain differences** are **normal**, rather than **deficits**.	A
Norm	**Standard** binding members of a group which **regulates power** and **acceptable behavior**.	A
Nuclear Family	Family unit of **two adults** and any number of **children living together**.	B
Orthodox	To **agree** with the **official doctrine** of a given **religion**.	A
Pansexual	Person who is capable of **falling in love** with individuals of **all genders**.	B
Polygamous Family	**Marriage** that includes **more than two partners**.	B

Racial Equity	When one's **racial identity** does **not influence outcomes**.	B
Religious Xenophobia	Showing **prejudice against** people that follow **other religions**.	B
Right Wing	**More politically conservative** groups on the **political spectrum**.	B
Socialism	Theory of **social organization owned** and **regulated** by **community**.	A
Socioeconomic Status	Someone's **social standing** measured by **education, income,** and **occupation.**	A
Unemployed	Person who is **not working**, but is **actively looking** for a **job.**	A

Note. Key words required to record as a correct response are in bold. Functionally

equivalent words to key words, as well as contractions were accepted as correct.

Appendix E: Sample Quiz Questions for CBI Training

QUIZ QUESTION	ANSWER BANK
Which of the following best defines antiracism?	(1) To oppose racial discrimination by advocating for change, (2) Within-and-between group favoritism, (3) View favoring free enterprise, private ownership, and traditional ideas, (4) Advocating for equity between men and women
Which of the following best defines metaphysics?	(1) Belief that brain differences are normal, rather than deficits, (2) Someone with rights, duties, and privileges provided by a governing body, (3) Theory of social organization owned and regulated by community, (4) Philosophy that explodes events that have no physical, scientific explanation
Which of the following best defines nationalism?	(1) Pride of one's country, and the belief its more important than others, (2) Someone with rights, duties, and privileges provided by a governing body, (3) Person who is not working, but is actively looking for a job, (4) View favoring free enterprise, private ownership, and traditional ideas
Which of the following best defines gender?	(1) Socially constructed ideas about behavior, and roles of a certain sex, (2) Using a particular ethnic group as a frame of reference or standard view of the world, (3) Person who is capable of falling in love with individuals of all genders, (4) Institutional practices which create different outcomes for different racial groups
Which of the following best defines homophobia?	(1) To ignore race and ethnicity as a part of someone's identity, (2) Irrational aversion to, or discrimination against homosexuality, (3) View favoring individual rights, civil liberties, democracy, and free enterprise, (4) More politically conservative groups on the political spectrum
Which of the following best defines a financial asset?	(1)A cooperative effort by two-political parties, (2) Non-physical asset whose value is derived from a contract, (3) Irrational aversion to, or discrimination against homosexuality, (4) Family unit of two adults and any number of children living together

Appendix F: Data Sheet

DIVERSITY FACT DATA SHEET					
Criteria for correct response: At least 90% point-to-point correspondence					
Training Model: SAFMEDS CBI					
Session: 1 2 3					
Participant: 401 402 403 404 405 406					
Diversity Facts A					
Question	Fact		Correct	Incorrect	NR/Pass

Appendix G: Modified SAFMEDS Procedure Fidelity Checklist

Procedure Component	Participant ___	Participant ___	Participant ___	Participant ___	Participant ___	Participant ___
Learner sees the front of the card						
Learner says corresponding definition						
If definition is incorrect, card is turned over to show correct response **or** **If definition is correct, next card is presented**						
At least 90% correct responding reached before testing						

Note. The independent observer was instructed to score (+) if the procedural component was present during the SAFMEDS session, before testing; score (-) if the procedural component was not present during the SAFMEDS session.

Appendix H: CBI Procedural Integrity Checklist

Procedure Component	Participant ___	Participant ___	Participant ___	Participant ___	Participant ___	Participant ___
Self-Paced						
Selection-Based Responses						
Contingent Non-Specific Feedback						
At least 90% correct responding reached before testing						

Note. The independent observer was instructed to score (+) if the procedural component

was present during the CBI session, before testing; score (-) if the procedural

component was not present during the CBI session.