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Implicit Bias Training in the Student Nurse Practitioner's Curriculum

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NURS749A: NP Qualifying Project: Manuscript Development

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Abstract

Background: Implicit bias (IB) training is not provided in all graduate nursing programs. As a result, graduate nursing students are not prepared to address poor health outcomes related to healthcare biases. This literature review examines the evidence for effective IB training methodologies.

Methods: CINAHL, Fusion, PubMed, Google Scholar, and Cochrane Database of Systematic Reviews were searched for peer-reviewed articles published between 2010 and 2022. The identified studies were critically appraised using the Johns Hopkins Nursing Evidence-Based Practice Level and Quality Guide Tool.

Results: Six articles were identified as eligible. Five studies implemented implicit bias training for graduate nursing students and medical students. One meta-analysis assessed the effects of diversity training on four training outcomes including characteristics of the training context.

Conclusion: There are numerous ways to structure IB training for graduate nursing students. However, educators must consider the sensitive nature of IB when planning the course. Factors to consider include the use of IAT (Implicit Association Test) tool, timing of training, use of creative training, providing bias mitigation strategies, and motivation to learn.

Implicit Bias Training in the Student Nurse Practitioner's Curriculum

Preventable healthcare disparities have been linked to healthcare provider bias. In a study completed by the Urban Institute, it was discovered that Black patients treated at the same hospital as White patients were at an increased risk for infections, surgery-related problems, and critical bleeding (Gangopadhyay, 2021). In addition, studies from 2011 to 2015, discovered that White women experienced fewer pregnancy-related deaths than Black women: 13.0 deaths per 100,000 births compared to 42.8 deaths per 100,000 births, respectively (Saluja & Bryant, 2021). The aforementioned studies discussed implicit bias as a likely contributing factor to these health disparities.

In 2021, implicit bias (IB) training became a pre-graduation requirement in California nursing schools (AB 1407). This legislation supports the American Association of Colleges of Nursing position, which states that nursing education must ensure both entry and advanced-level nursing education provides graduates with the ability to understand the social determinants of healthcare inequities and structural racism with a call to action for change through advocacy and preparation (Essentials Task Force, 2021). Assembly bill 1407 (AB 1407) requires California nursing schools to mandate the completion of a one-hour IB training which covers internal bias identification, barriers to inclusion, corrective measures, effects of IB, cultural identity, cross-cultural effective communication, power dynamics, IB and maternal and infant health outcomes, community issues, and reproductive injustice (Nurses: implicit bias courses Assembly Bill, 2021).

As key stakeholders including healthcare organizations (HCOs) community members and leaders, and healthcare providers become more aware of health inequities resulting from implicit bias, several states have passed similar legislation. Similar to the state of California, Washington,

Maryland, Minnesota, and Michigan have decided to implement change at the universal entry-point for all healthcare providers; the schools. (Cooper et al., 2022). Educators are using various approaches to cover sensitive and crucial topics. For example, the implicit-association test (IAT) which was introduced in 1995 to assess conceptual associations, stereotypes, and judgments, is often used to provoke reflection during training (Ungvarsky, 2021). However, the learner's responses to the IAT scores ranged from defensiveness to acceptance (Gonzalez et al., 2021). Researchers also report diversity training can backfire by strengthening previously held beliefs and stereotypes (Bezrukova et al., 2016).

According to Bezrukova et al. (2016), implicit bias training, which is also referred to as diversity training, is not standardized. Trainings can be focused on groups meaning they target one group or multiple groups which demonstrates bias. Others are inclusive groups that focus on organizational culture, which demonstrates bias. These researchers also found variation in the duration of the training, with some training lasting 30 minutes to a span of several years. Instruction methods also vary. They can be lecture-based training, simulations, dramatization, or video, with some training incorporating a combination of methods. Training objectives can be to raise awareness, change behaviors, or both. The numerous training methods increase the risk of ineffective IB training which do not prepare providers to implement bias reduction strategies to improve health equity.

The Doctor of Nurse Practice (DNP) program prepares students to improve patient and system outcomes through the implementation of quality improvement projects (Graves et al., 2021). According to Provision 8.3 in the Code of Ethics for nurses, nurses are obligated to reduce disparities; recognize that healthcare is provided to culturally diverse populations; and collaborate to create practice settings that are sensitive to diverse cultural values (American

Nurse Association, 2015). In order for future nurse practitioners to provide culturally competent care, they must be properly trained to identify structural and personal biases which promote health inequality. Students must begin to consider how future change projects can improve health outcomes from a diversity, equity, and inclusivity (DEI) perspective. The purpose of this literature review is to collect the best evidence from healthcare provider students and educators to implement evidence-based training that integrates student and educator preferences to inform the design and implementation of an educational quality improvement project.

Currently, the chosen educational organization does not provide IB training to NP students to equip them to provide culturally competent care, nor tools to identify and mitigate bias. Nurse practitioner students are unaware of personal biases and how they impact equitable healthcare since specific IB training is not incorporated into the NP curricula. Implementation of IB training to increase NP students' awareness of bias with tools to decrease bias in healthcare is expected to improve patient health outcomes, enrich patient-provider relationships, and raise awareness of IB.

Review of the Literature

PICOT Question

Two PICOT (population, intervention, compare, outcome, time) questions were developed to search the literature. In nurse practitioner students (P), how will the implementation of an implicit bias training course (I), compared to current practice (C) increase students' awareness of how implicit bias impacts quality patient care? The second question is how do students in a graduate-level healthcare provider program (P) perceive (I) receiving IB training (T) during their coursework?

Literature Search

A literature search was performed to gather quantitative and qualitative data about IB training within graduate school programs for healthcare providers. Furthermore, the literature was reviewed for experiential data exploring how to implement successful IB or DEI training. Searches were completed on the Cumulative Index of Nursing and Allied Health Literature (CINAHL), Fusion, PubMed, Google Scholar, and Cochrane Database of Systematic Reviews. To search the databases the following search terms were used: “implicit bias”, “diversity, equity and inclusivity” “nursing school,” “graduate school,” “curriculum,” “patient-centered care,” “unconscious bias,” “training,” “students,” and “healthcare providers.” Peer-reviewed research articles that were published in English between 2010 and 2022, were eligible for inclusion. Inclusion criteria were further narrowed to include articles centered on implicit bias training or diversity, equity, and inclusivity training for graduate healthcare provider students. The search was limited to articles available electronically. The search generated 98 results. Selected studies emphasized implicit bias training for graduate students. A backward citation search was completed for all included articles. Based on the above-mentioned criteria six articles were selected. Only articles whose interventions included training for implicit bias, cultural, or diversity, equity, and inclusivity for healthcare providers in graduate programs were included. Six articles were evaluated using the John Hopkins Nursing Evidence-Based Practice Evidence Level and Quality Guide Tool. The complete analysis is available in Appendix A.

Bias Mitigation Strategies

Skills to actively decrease bias is often expected during IB training (Gonzalez et al, 2021). The objectives for diversity training can exclude providing bias mitigation strategies. Implicit bias in comparison to explicit bias resides in the subconscious mind, meaning the educator is tasked to teach the learner how to change their belief systems, hidden judgments, and stereotypes (Fitzgerald & Hurst, 2017). Furthermore, the discussion of IB can challenge the

learner's self-perception, thus resulting in defensiveness, which can be a learning barrier (Gatewood et al., 2019). Three studies collected qualitative data regarding learners' bias mitigation strategies (Gatewood et al., 2019; Gonzalez et al., 2021; Schultz & Baker, 2017). Gatewood et al. (2019) implemented an IB activity at four institutions in the United States. Multiple levels of nursing education were included in this qualitative study with 110 students (13 BSN, 33 MSN, 64 DNP). During step 3 of the IB activity, students were asked to identify actions to mitigate the effects of IB during nursing care in a group discussion. Their responses were separated into the following themes, awareness/mindfulness, pausing, and exposure to different cultures. Students reported mixed responses to whether the discussion helped identify strategies to manage IB (25% strongly agree; 45% agree; 25% neutral; 4% disagree; 1% strongly disagree). Gatewood et al. (2019) concluded that future studies should evaluate change in bias awareness because their study did not measure the effect of the activity on bias awareness and the impact of IB on health outcomes.

Bias-reduction strategies post-IB training have also been examined in medical students. Gonzalez et al. (2021) completed a qualitative analysis of 180 written reflections of medical students. The essay prompted each student to write about their reactions to their IAT for race results and how the results might influence their work as physicians. Students accepted IAT results but provided vague plans to decrease bias. Several students requested concrete steps to reduce bias. Among students who provided clear bias reduction strategies were subsequent reflections that explained the limitations of any single strategy. Gonzalez et al. (2021) concluded that the students desired to provide unbiased care but lacked the ability to strategize ways to manage their own biases despite completing IB training.

Shultz and Baker (2017) evaluated the effect of teaching strategies seeking to increase graduate-nursing students' management and acceptance of IB. The researchers exposed a convenience sample of 75 graduate nursing students to a seven-part IB educational intervention. Bias management strategies were categorized as acceptance-level, adaptation-level, and integration-level. Seventy percent of the students selected acceptance-level; 20% selected adaptation-level strategies, and 6% chose integration-level strategies. Integration-level strategies focus on relational awareness, insight, empathy, and controlling bias. Four percent of the students selected to mitigate bias via suppression of thoughts and feelings. The researchers concluded that teaching strategies should incorporate categorized management strategies.

Creative IB Training Methods

Literature suggests IB training can be uncomfortable for learners as it is often perceived as an attack on one's identity due to learning that one's beliefs and actions are biased (Staats & Patton, 2013). Defensiveness or backlash from IB training can be reduced with the use of creative training methods. In a qualitative analysis, Vandermause et al. (2021) evaluated responses to a dramatization exercise among 136 advanced practice nursing students in the Midwestern United States. The students were predominantly female (95.6%) and non-Hispanic white (67.6%). A trained counselor from a regional theatre company facilitated the dramatization teaching intervention. The students were divided into small groups where they told stories associated with cultural tension through a series of frozen pictures. Each group presented to the class for interpretation and identification of unconscious bias in verbal and non-verbal communication (Vandermause et al., 2021). The students had positive feedback which included that sharing stories in small groups was impactful, and increased awareness of non-verbal bias. During the small group discussions, the researchers explored students' sense of safety. The

comments surmised the students felt a general sense of comfort to express feelings in a safe environment.

Simulation learning is another form of active learning which engages students in higher-order thinking (Thomas et al., 2014). Tiffany et al. (2016) examined the use of virtual role-play simulation on topics of cultural awareness, inclusivity, and diversity. The researchers randomly assigned 15 nurse educator students to a customized avatar. Each avatar represented a marginalized person (i.e., a paraplegic male, a Somalian male refugee, an overweight mother, and a homeless veteran). The learning requirements included a final discussion paper about their simulation experience. The researchers identified three main concepts, microaggression, recognizing bias, and projective identity. Projective identity is unique to the virtual world. It is when the player projects their own feelings, biases, and personal experiences into their virtual persona. Results indicated 10 out of 15 students identified stereotypes and biases after being introduced to their avatar. Finally, the researchers concluded: “all students reported an immediate positive impact on their interactions with patients in their own practice settings” (Tiffany et al., 2016, p. 119).

Timing of IB Training

California Assembly 1407 requires a one-hour training on IB which includes direct participation (AB 1407). However, all of the studies reviewed had significantly longer training times. Another factor to consider is when is the best time to implement IB training in a graduate nursing curriculum. Tiffany et al. (2016) study was assigned in a graduate course titled Inclusion in Nursing Education. It required 10 hours of virtual interaction and two written assignments. Preparatory time included several reading assignments pertaining to teaching and learning about cultural awareness and inclusivity.

Gonzalez et al. (2021) applied their three-part intervention during the third year of a four-year program. The interventions consisted of a 90-minute session, and two writing assignments. Gatewood et al. (2019) IB training was administered to students in four different nursing schools. Students were in first-year studies to final-year studies. The authors discussed that offering IB training before clinical experience may increase awareness of IB in clinical settings (Gatewood et al., 2019). Notably, participating faculty members in this study noticed finishing students were distracted. Feedback from both students and faculty suggested dividing the training into sections and administering it over time (Gatewood et al., 2019).

Vandermause et al. (2021) did not disclose the length of time of the dramatization exercise. However, based on the sample size of 136 students and details of their intervention (i.e., small groups presenting dramatization for discussions), it is assumed that the training required more than one hour. In addition, the exercise was administered during the second year of the DNP program. In like manner, Schultz and Baker (2017) omitted the specific length of time of their educational intervention, however, they described pre-class and post-class assignments alongside a four-part in-class intervention. Schultz and Baker (2017) also suggested dividing unconscious bias training into three sections: (a) introduction to IB and its impact on patient care to be taught during the first year; (b) IAT tests with debriefings to be administered during clinical rotations; and (c) mitigation strategies and awareness to be taught in the final year (Schultz & Baker, 2017).

Motivation to Learn

Numerous healthcare organizations are implementing diversity training in new-hire orientation and annual training. Researchers continue to question effective learning based on learning and motivation theories (Bezrukova et al, 2016). DEI training in the organizational

setting may be perceived by faculty as forced or inconvenient, thereby, negatively impacting an individual's willingness to learn. Bezrukova et al. (2016) provided a meta-analysis of 260 studies to assess the effects of diversity training on four training outcomes. A portion of their research evaluated diversity training contexts in relation to settings (i.e. educational versus organizational). Bezrukova et al. (2016) hypothesized the following:

Diversity training will have stronger effects on all learning outcomes when the training context provides more motivation to learn (e.g., educational settings, integrated, and mandatory) than when it does not (e.g., organizational settings, standalone, and voluntary). (p. 1230)

Results revealed training in educational settings may be preferred over organizational settings as evidenced by larger effect sizes for reactions in educational settings ($g = .80$) than in organizational settings ($g = .28$) (Bezrukova et al., 2016).

Instructors providing grades to learners for completing assignments is a strong motivation to learn. In Tiffany et al (2016) study, IB training intervention was incorporated into the objectives of the course. Similar to Tiffany et al. (2016) study, Gonzalez and colleagues' interventions were part of the course requirements (Gonzalez et al., 2021). Gatewood et al. (2019) IB training was incorporated into four different courses that were part of the student's nursing program. Shultz and Baker (2017) included a post-class assignment which was scored with feedback from the instructor. Furthermore, Bezrukova et al. (2016) study demonstrated mandatory training had larger effect sizes for behavioral learning than studies that had voluntary training.

Use of IAT in Training

In 1995 two American social psychologists, Greenwald and Banaji introduced the implicit-association test (IAT) (Ungvarsky, 2021). The IAT assesses the strength of conceptual associations, judgments, and stereotypes through a series of questions (Ungvarsky, 2021). This tool is often used in implicit bias education to engage learners in discussion and reflection (Gonzalez et al., 2021). The IAT is not recommended to be used as a definitive measure of bias (Gonzalez et al., 2021). Furthermore, according to several researchers, IAT results can trigger negative emotions which can prevent IB training objectives (Gatewood et al., 2019; Gonzalez et al., 2021, Schultz & Baker, 2017).

Gonzalez et al. (2021) conducted a qualitative study to explore the perspectives of medical students after taking the IAT. Initially, participants expressed deep emotional negative reactions to IAT results. Some participants questioned the negative implications biases may have on their future physician-patient relationships and, others were dismissive toward the IAT. In the same study, an African American student discussed that their IAT results showed implicit racial preference. This student was concerned that this preference may lead to possible negative outcomes. Gonzalez et al. (2021) incorporated the Race-IAT in their intervention as a post-session assignment, compared to Gatewood et al. (2019) and Schultz & Baker (2017) who incorporated IAT in the pre-session portion of their interventions. Gonzalez and colleagues decided to remove the IAT from the pre-session portion of their intervention due to previous resistance to IAT prior to any instructions (Gonzalez et al., 2021). However, participants with initial negative reactions to IAT results eventually progressed towards a reframing mindset, including gratitude, and opportunity for change (Gonzalez et al., 2021).

The IAT was designed to measure response times to images and words (Ungvarsky, 2021). Among test takers, test validity is frequently questioned. Schultz and Baker (2017)

performed a qualitative study aimed to evaluate IB teaching strategies to increase nursing graduate students' management and acceptance of IB. Schultz and Baker presented an IB module to 75 Master of Science in Nursing (MSN) students. The students completed the IAT as a pre-assignment. Afterward, during a guided debriefing, the students were informed that their IAT results were not indicators of racism, inequitable motives, or prejudice. Initially, 74% of students questioned the validity of the IAT. Schultz and Baker (2017) assigned a second IAT for the post-class activity and revealed only 15% of students questioned validity. Schultz and Baker suggested providing future learners with information about IAT and its implications prior to test taking.

Gatewood et al. (2019) explored awareness of IB and its influence on 110 nursing students in four different schools. The students were in the following nursing programs, family nurse practitioner (FNP) at both master of science in nursing (MSN) level and doctor of nurse practice (DNP) level, and bachelor of science in nursing (BSN). The IAT was assigned after students watched a video and read an article that covered the history and implications of the IAT. This assignment was to be completed outside of class prior to self-assessment via the IAT. The students were allowed to choose one IAT out of the following group: Asian IAT, Skin-tone IAT, Native IAT, Race IAT, or Arab-Muslim IAT. In the post-evaluation assignment, the students questioned the validity of IAT as some felt it measured motor movement rather than bias. Several students stated that despite their IAT results which detected bias, they wouldn't make any changes and did not feel they judged patients (Gatewood et al., 2019). Notably, Gatewood et al. (2019) highlighted the importance of proper framing of IAT prior to administering it to students. Despite efforts to introduce IAT to participants with two pre-assignments, the researchers were unable to verify if all participants completed the pre-assignments prior to taking

the IAT (Gatewood et al., 2019). Thus recommending completion of IAT preparatory assignments to be done in class. On the other hand, 86%-89% of students agree or strongly agree that IAT preparatory assignments were helpful (Gatewood et al., 2019).

Analysis

Research supports strategic planning when implementing an IB training for graduate healthcare provider students to ensure training objectives are met. The articles evaluated in this literature review reveal key components in an implicit bias education program for DNP students to be successful in increasing their knowledge base of IB and acquiring bias reduction skills for future practice. Establishing an evidence-based IB training program is crucial to prepare DNP graduates to provide culturally sensitive care. To reduce negative associations with IB training while facilitating learners to find meaning educators should create safe learning environments through virtual reality, simulations, group discussions, and dramatization (Tiffany et al., 2016; Vandermause et al., 2021). If using the IAT to stimulate self-reflection or as a metric for pre/post evaluations ensure students understand the implications of the IAT (i.e., scores do not mean you are a racist). IAT has the potential to deter learners who question test validity; therefore, a thorough explanation of the IAT's purpose can decrease a learner's resistance based on IAT scores (Gatewood et al., 2019; Gonzalez et al., 2021, Schultz & Baker, 2017). On the other hand, it is a useful tool to provoke introspection and discussion (Gatewood et al., 2019; Gonzalez et al., 2021, Schultz & Baker, 2017).

Educational settings have the ability to incorporate IB training into curriculums. For example, educators can assign deliverables that receive a grade upon completion. This reward system can increase motivation to receive IB training (Bezrukova et al., 2016; Tiffany et al., 2016 Gonzalez et al., 2021; Schultz & Baker, 2017). Lastly, learners may have difficulty

formulating concrete bias mitigation strategies and accepting more abstract strategies like mindfulness and awareness (Gatewood et al., 2019; Gonzalez et al., 2021; Schultz & Baker, 2017). Research suggested the optimal time to implement IB training is to divide it into sections and present it throughout the program versus all at once (Schultz & Baker, 2017; Gatewood et al., 2019).

Discussion

The review of the literature explored implicit bias training within curriculums for future healthcare providers (i.e., nurse practitioner students and medical students). It sought to understand student perspectives and components of implicit bias or diversity training. To recap, six studies were appraised, one of which was a meta-analysis. The review found that IB training has a positive effect on students including increased awareness of personal biases. Overall, implicit bias training offered within a curriculum increases motivation to learn. The IAT test is more likely to evoke negative emotions in learners, which can be a learning barrier. The sensitive nature of implicit bias training can be mitigated with creative learning such as virtual reality or dramatization. IB training divided throughout the curriculum was suggested by several researchers.

This literature review has several limitations. The evaluated studies had small sample sizes. The training interventions varied in learner objectives, duration, use of IAT, and type of IAT. The perspective of participating faculty members was not evaluated. Student demographics such as year of study differed or were not presented (Tiffany et al., 2016). For this review, the author only evaluated studies published between 2010 to 2022, thereby excluding possible relevant studies. Because implicit bias is unconscious, studies seeking to measure the effectiveness of IB training are prone to error. Three of the reviewed studies used the IAT test to

measure bias (Gatewood et al., 2019; Gonzalez et al., 2021, Schultz & Baker, 2017). However, IAT test scores were not used to evaluate each intervention's impact on bias scores. Future studies should measure bias scores pre and post-intervention and collect qualitative data to convey faculty perspective. Furthermore, student demographics should include the year of study, the program of study, age, and race. Future studies should include randomized controlled trial (RCT) studies comparing creative IB training to lecture-based format IB training can help standardize graduate nursing IB training.

Implications

Institutions that are implementing IB training should set clear objectives to explain the meaning of implicit bias and the IAT scores. This may reduce learners' negative emotions, which can be potential learning barriers. If using the IAT for training, ensure to frame the purpose of its use as it is not necessary for bias training. Increase motivation to learn by incorporating IB training into curricula with graded assignments. Creative IB training allows participants to explore both verbal and non-verbal IB communication while promoting higher-order thinking. These results should be taken into account when considering the best methods for implementing IB training for DNP students.

Conclusion

This literature review investigated the impact of including IB training in graduate-level programs for graduate nursing students and medical students. The findings revealed the nature of IB training can inadvertently result in learners being made to feel attacked, which can be a barrier to change and learning. The use of creative teaching methods such as simulation and drama may decrease defensiveness and lead to higher-order thinking. The IAT is useful in bias training; however, it is important to educate learners about its implications to decrease negative

experiences. Educational settings have a greater effect on IB training compared to organizational settings. Prior to implementing implicit bias training for graduate nursing students, educators should decide how will the IAT be used to facilitate learning if used at all; how can creative learning be used to decrease defensive learning; what strategies can be used to increase motivation to learn; ensure delivery of bias mitigation strategies, and when is the appropriate time to deliver the training.

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Appendix A. Evaluation Table

Citation	Purpose of Study	Design/Method	Sample/Setting	Study Findings	Appraisal Rating
Gatewood et al. (2019)	Raise awareness of IB and its influence on health outcomes and a support a discussion on ways to mitigate the impact of IB	Quality improvement initiative/exempt educational activity, Mixed method	4 nursing schools across US (west coast, Midwest, east coast). 110 students (BSN, MSN, DNP).	Eval of learning Activity: positive, increased awareness of personal IB, found discussion helpful, increased ability to manage IB, Narratives: (1) Ways to change approach to pt care awareness/mindfulness, pausing, deliberate exposure to people of diff backgrounds (2) reactions to IAT: surprise with need to work on it, disbelief with decision to not change, and does not believe they judge,	Level V: Good Quality
Gonzalez et al. (2021)	Explore perspectives of medical students during the clinical portion of their training to the experience of taking the IAT and the resulting feedback	Qualitative thematic analysis	180 written deidentified essays of medical students. Bronx, NY.	Themes: (1) <i>reactions to IAT</i> included emotional r/t professional identity, overall acceptance of bias in oneself, reframing to gratitude post initial negative reaction, racial preference was noted in African American student; (2) <i>Accepting bias yet struggling to identify strategies</i> r/t fear of making biased clinical decisions, broad and generalized statements to mitigate bias, wanting to develop strategies (3) <i>Self-Identifying a Range of Strategies: self awareness w/limitations as sole strategy, real-time reflection before or after encounter, consideration if treatment would differ for another race, residency programs that facilitate team reflection on bias, chart reviews prior to pt encounter and identification of race with a pre-determined plan of action based on condition, use of checklist and protocols to enhance objectivity. Paradigm shifts</i>	Level V: High Quality

Citation	Purpose of Study	Design/Method	Sample/Setting	Study Findings	Appraisal Rating
Schultz & Baker (2017)	Describe teaching strategies implemented in a graduate setting to increase nursing learners acceptance and management of unconscious bias.	Mixed methods	75 MSN students. Midwest, US.	95% of IAT, positive for bias, 74% doubted test validity, 51% felt unconcerned about test results, In post-class survey 15% doubted test validity; Management strategies: 70% selected focus on recognizing bias (awareness) and (20%) reducing bias, 6% integration with humanism (insight, empathy, and relational awareness)	Level V: Good Quality
Vandermause et al. (2021)	Present a qualitative analysis of data regarding doctoral nursing students responses to a new dramatic exercise as part of a funded project to facilitate cultural learning in a diversity-enhanced curriculum	Qualitative analysis	136 DNP students (Adult-Gerontology, Family, Peds, Pop Health, Psych, Women's Health). (130 female, 6 male, 34 African-American, 11 Asian, 3 mixed-race, 92 Non-Hispanic White, 1 Hispanic/Latinx participants). Midwest, US	Intervention: favorable rating (2.68-2.90/3), Awareness of how bias is communicated through body language and facial expressions, Most beneficial aspects according to students: story sharing, small group discussions of workplace scenarios, becoming familiar with non-verbal, bias and feelings. Hesitancy to participate in unfamiliar activities creates tension that leads to new thinking, Safety is a foundational aspect of learning sensitive issues: students were uncomfortable at first but later felt comfortable to share and open-up	Level V: Good Quality
Tiffany & Høglund (2016)	Demonstrate that valuable learning regarding complex topics can take place in the virtual world.	Qualitative analysis, case study	15 graduate nurse educators students.	Projective identity, macroaggressions, recognizing bias, higher-order thinking skills, gave new meaning to lesson.	Level V: Good Quality

Citation	Purpose of Study	Design/Method	Sample/Setting	Study Findings	Appraisal Rating
Bezrukova et al (2016)	Assess the effects of diversity training on 4 training outcomes over time and across characteristics of training context, design, and participants.	Meta-analysis	Studies (N=260) reported in 236 articles	Longer trainings transfers to more positive reactions, better diversity knowledge, skills, attitudes. Training in educational settings preferred over organizational settings. Hypothesis partially supported diversity training will have stronger effects on all learning outcomes with the training context provides more motivation to learn.	Level II: High Quality

