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Methods for Teaching Health Equity and Diversity, Equity Inclusion, and Accessibility to Public Health Practitioners: A Semisystematic Review of the Literature

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Abstract

Context: Training developers and educators play a crucial role in building strategic skills among the public health workforce. They prepare the workforce to respond to and address emerging concerns and priorities, including on the topics of health equity and diversity, equity, inclusion, and accessibility (DEIA).

Objective: The purpose of this semisystematic literature review was to identify current evidence-based methods that training developers and educators can apply when teaching DEIA and health equity principles to public health practitioners from various disciplines in the workforce.

Design: We conducted a semisystematic literature review because this methodology's purpose is to extract rich, in-depth descriptions that matched the aim to find evidence-based teaching methods to apply.

Results: Six methods that hold promise for effective teaching health equity and DEIA principles emerged as themes: Critical Reflection, Service Learning, Case Studies, Peer-Learning/Dialogue, Workshops, and Simulation Learning.

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Conclusions: Considerations for best practice identified in this literature review include using multimodal approach to support different learning styles among diverse audiences, tailoring content based on training needs analysis recommendations, and considering onus placed on instructors and learners depending on the content and setting.

Keywords

DEIA education; health equity; public health; workforce training

Introduction

The function of the public health system relies heavily on the work of training developers and educators as they prepare the workforce to respond to and address emerging concerns and priorities.¹ Training developers and educators help share necessary knowledge and build strategic skills among the public health workforce, including persons new to the field and those without formal training in public health. Training developers and educators have a crucial role in training multidisciplinary public health practitioners in key public health concepts to advance priorities of the field.²

Reflecting the shifting culture and context in the United States, one such priority issued through Executive Order 14035 is to “strengthen the governmental workforce by promoting diversity, equity, inclusion, and accessibility” (DEIA).³ The Centers for Disease Control and Prevention (CDC) responded by developing CDC’s CORE (cultivating comprehensive health equity science, Optimizing interventions, Reinforcing and expanding robust partnerships, Enhancing capacity and workplace diversity, inclusion, and engagement) Health Equity Science Intervention Strategy.⁴ In 2020, CDC’s Division of Workforce Development (DWD) set core milestones for training within fellowships housed in the division, which include public health practitioners such as informaticians, epidemiologists, laboratorians, and evaluators.⁵ DWD recognizes current competencies and skill-building priorities, including that (1) knowledge and skills in health equity (including DEIA) are necessary to functionally collaborate across specialties within the workforce and advance public health efforts addressing social determinants of health,⁶ and (2) Core Competencies for Public Health Practitioners infuses health equity and DEIA throughout all domains, but specifically addresses the topic in Domain 4: Health Equity Skills.⁷ DWD prioritizes providing fellows and future public health leaders with health equity training to help ensure “everyone has a fair and just opportunity to attain their highest level of health.”⁸ The division’s fellowship educators prioritize using evidence-based teaching methods to strengthen competency-based fellowship curricula. The literature review was needed to find evidence-based recommendations to teach DEIA and a health equity lens for the scientific public health work that CDC trains fellows to conduct. Using the evidence to strengthen curricula was especially important as racism was declared a public health threat,⁹ and a large body of health education evidence had not been identified. We conducted this literature review to address this gap.

The purpose of this semisystematic literature review was to identify current evidence-based methods that training developers and educators can apply when teaching DEIA and health

equity principles to public health practitioners from various disciplines in the workforce. Multiple teaching methods can be used to help learners build knowledge and skills. Because training developers and educators may work with limited resources, strategically choosing methods to apply in educational programs is paramount to efficiently yielding effective results. The findings of this literature review are relevant to professionals working toward similar goals of systematically advancing health equity and DEIA efforts in various public health workforce education models and settings.

Methods

We conducted a semisystematic literature review because this methodology's purpose is to extract rich, in-depth descriptions that match our aim to search for common teaching methods to apply.¹⁰ Semisystematic reviews aim to assess the current state of knowledge.¹⁰ These reviews research broad questions, use qualitative text from research articles, and thus use inductive qualitative analysis. Semisystematic reviews are useful "when wanting to study a broader topic that has been conceptualized differently and studied within diverse disciplines."¹⁰ In contrast, systematic reviews have more narrow research questions, focus on quantitative outcomes data, and use quantitative or mixed methods, while integrative reviews take a critical lens to analyze information and create new theoretical frameworks.¹⁰ A semisystematic approach was the best fit for our purposes because it yielded a rich overview of teaching method descriptions.

Database search

We selected key words that address teaching health equity and DEIA to professionals in public health (eg, training, diversity, equity, inclusion, public health, equity training methods, teaching diversity, and inclusion). This built on the purpose statement and took into consideration the research topic complexity and similar, yet different, terms used in the field.

We developed search strings and Boolean search operators using the key search terms we defined. Search strings were updated iteratively based on results. During June to September 2022, we searched databases in public health, education, business, and social sciences (ERIC Pro Quest, Google Scholar, Business Source Complete, PubMed, Education Database ProQuest, and Public Health Database ProQuest) using our selected search strings.

Article selection

We screened literature based on titles, abstracts, and key words to determine fit for the purpose and scope of this work. Because context is a key factor in health equity and DEIA, we limited inclusion criteria to journals published in the United States and in English. We also restricted articles to those that focused on teaching DEIA principles to adult learners as the primary audience and studies published within the previous 5 years (2017-2022). We included gray literature (eg, articles on government web pages) by scanning the references of relevant articles. We screened 7891 articles, and after analyzing them for our specific inclusion and exclusion criteria, we ultimately included 20 articles for inclusion after meeting saturation of teaching methods.¹¹ Many articles were excluded based on not

centering strategies for teaching health equity and DEIA but mentioning these concepts separately. We triangulated the included articles from diverse sectors within the field of public health and related fields. We purposefully selected the included articles because they centered on teaching methods, and the learning setting was relevant to workforce training. We conducted an updated scan of articles published during September 2022 to March 2023. Although 693 additional articles were identified based on our search terms, none of the additional publications fit within our inclusion criteria. The primary reason articles were excluded was because the learners were not adults and/or the setting was not in the United States. Study processes are outlined in Figure 1.

Analysis

Analysis for semisystematic reviews is often similar to qualitative research processes.¹⁰ We intentionally conducted an open-ended, inductive (data-led) analysis of the literature's data on teaching methods.¹² Two independent coders analyzed data for emergent themes using Excel, and they met with a third to validate their work and resolve discrepancies, for example, when multiple methods were used in 1 article. Additional key features we examined included learners and settings (eg, adult learners in the workplace), training developers or instructors (eg, faculty at a medical school or instructional designers), format (eg, a workshop or a university course), and duration.

We also analyzed reported evaluation findings using the Kirkpatrick Four Levels of Training Evaluation to determine the training efficacy. The 4 levels of the Kirkpatrick model are reaction (K1), learning (K2), behavior (K3), and results (K4). If evaluations show learners found a training to be engaging and useful, it meets the K1 level of the Kirkpatrick model. At the K2 level, evaluations show learners gained knowledge they did not have previously. K3-level evaluations show behavioral change based on the knowledge and skills they gained in the training. K4-level evaluations demonstrate specific outcomes because of the training.¹³

Findings

Our literature review revealed different evidence-based methods for teaching DEIA concepts, 6 of which emerged as primary themes (Table 1). Several articles applied a multimodal approach that combined multiple teaching methods to achieve results, and we grouped those articles by the primary method used. Authors reported different settings in which DEIA and health equity programs were implemented, including but not limited to university classes, the workplace, and clinical education and training. All articles included considered a match of methods to the needs of the audience, context, and other factors that best fit the content while teaching, using methods inclusive of different learning styles (Table 2).

“Critical reflection” creates opportunities for self-reflection that helps learners understand a given public health problem. Learners reflect on personal, lived experiences and use that reflection to advance their learning. The literature emphasizes that instructors and learners need to engage in introspective thought processes for this method to be successful in fostering learning.¹⁴ Reflection is more than assigning a reading and requiring that learners

reflect in a written journal or discussion post. de la Croix and Veen note that this can appear that the learner is reflecting but might be going through the motions without internalizing any change.¹⁵ To support true reflection, the authors encourage embracing diversity, making reflection an iterative process, and diving into the less structured aspects of life and work as opportunities for growth.¹⁵ Aqil et al examined ways that faculty at schools of public health across the United States incorporated reflection into their teaching in the framework of anti-oppression and social justice.¹⁴ Their study reported that critical reflection, creating equitable classrooms, and discussing historical contexts of systems of oppression were key in anti-oppressive teaching.

“Service learning” or critical service learning (CSL) establishes projects for participants to serve their community. “CSL draws together theory and research with a community-led project that aims for social change, authentic relationships, and the redistribution of power”.¹⁶ Learners engage with material by practicing skills learned in the classroom in a real-world environment and gain hands-on experience as public health professionals. The literature suggests that this method can be a positive way for a program or workplace to give back directly to the community that they serve.^{17,18} Biswas and Izard found that CSL helps students engage in topics of diversity and inclusion.¹⁷ They reported this method to be particularly helpful in infusing DEIA into courses that did not have a specific DEIA focus. Costley, Nottingham, and Nikolou-Walker similarly reported that CSL is a tool for teaching DEIA and identified it to be a useful teaching method for learners with less traditional academic backgrounds.¹⁸ In exploring the application of CSL in a public health nursing and a public health evaluation course, Derreth, Jones, and Leven noted that this method can be time-consuming and resource-intensive.¹⁶ Therefore, the benefits generated need to be evaluated against organizational capacity to support their learners. A significant benefit of service learning is that learners can directly serve their community using skills they are developing in the classroom.

“Case studies, or case-based learning,” allow learners to apply public health concepts to realistic scenarios they might experience as working professionals. Instructors can develop scenarios based on their professional experience and educational materials or adapt real-life cases for their students to review. In one article, Hoffer tied case-based learning to the historical practice of storytelling as a framework for expanding the learners’ worldview.¹⁹ In another article, senior pediatrics residents at Boston Medical School solicited examples of cases from physicians where bias played a role in patient outcomes. The learners talked through the cases to discuss what role they would play in preventing bias and structural racism from negatively affecting their patients. The conversations about the cases originally occurred in larger groups but were changed to small group discussions based on student feedback, making the learning process iterative and engaging. After the third session, 100% of participants agreed they were able to identify tools, resources, and opportunities to combat implicit bias.²⁰

“Peer-learning and dialogue” creates opportunities for learners to discuss health equity and DEIA concepts in connection with personal lived experiences and engage in discourse with other learners. This method can be a natural continuation of critical self-reflection, but where self-reflection can be primarily internal, peer learning and dialogue places learning

on the connections that we make with others. In the literature, peer learning was largely facilitated in classroom settings. Learners were often presented with a topic or question for discussion. They might have been given time to reflect in a written discussion post or on their own for internal silent reflection and then share their thoughts with others. Vesperman's "Transforming the Activity of Teaching a Foundation of Diversity and Equity Course" noted that instructors relied immensely on this method during the COVID-19 pandemic when a shift to virtual learning occurred.²¹ Another article described how peer learning and dialogue can be especially valuable when the student population is diverse itself. In this study, professors focused on a specific "interim point." This is when the professor converts subject matter that differs from students' everyday knowledge into personal or practical ideas familiar to students and asks students to discuss with others. Using a public health example, an instructor might lead discussion about immunizations and vaccines by asking learners to share their personal experiences and then discuss the public health implications of vaccinations. Learners can share their lived experiences, learn from the experiences of others, and tie them to broader topics in health equity and DEIA. One instructor shared that they taught a diverse student body and found that this method provided multiple opportunities for students to learn how other people view things from a perspective different from their own.²²

"Workshops" are short-term trainings often focused on specific topics. Workshops can differ in length, ranging from a few hours to days. One study used a 2-day workshop for teaching DEIA to first-year medical students. The "Differences Matter Orientation" workshop focused on 3 pillars of learning, including personal narratives, relationship-centered communication, and upstander training. The article notes that this method was especially effective in building relationships between students and faculty by using a curriculum that includes, rather than ignores, race and other social determinants.²³ Additionally, tailoring a workshop to the specific needs of a learner population is important.²⁴ In the article "Critical Consciousness as a Framework for Health Equity," instructors used a critical consciousness framework to produce a 5-day workshop for first-year medical students. The workshop focused on introducing problems of discrimination and inequity that affect patient health outcomes. At the workshop conclusion, students completed a self-assessment evaluation tool used by other authors in this literature review. A workshop requires different follow-up support to ensure concepts are being absorbed beyond the training, and can be a great starting point for continued learning.^{25,35}

"Simulation learning" casts learners into a role and allows them to act out a given scenario as it might occur in the field. Simulation can take the form of a computer program or immersive technology. On the low-tech side, simulation can look like role-play, where learners are given a prompt or loose script and act it out with others. The use of simulation technology has become increasingly popular in more recent years.²⁶ In one article, students were tasked with writing a reflection on an assigned reading before being divided into groups to exercise a realistic diversity challenge. That challenge was to create a list of diversity concerns for the Dean of Students at their university.²⁷ As a method, simulation can be valuable in that learners can practice applying concepts of health equity and DEIA in realistic scenarios, while remaining within the bounds of a learning environment.

Efficacy

For each article that reported a summary of evaluation findings, we determined the level of the Kirkpatrick Four Levels of Training Evaluation conducted. Most of the articles included addressed K1 and K2 levels of training evaluation, only 1 article evaluated K3, and none evaluated K4. We identified this lack of results-focused evaluation as a gap in the literature. While K1 and K2 level evaluation results are helpful to ascertain reactions (K1) and learning (K2), additional research is needed to determine longer-term behavioral change and outcomes of trainings on health equity and DEIA at K3 and K4 levels.

Discussion

Our literature review yielded 6 evidence-based methods for teaching health equity and DEIA that can be applied to different workforce training and development programs and align with best practices for training and education efforts. Several considerations for best practices emerged from this research. First, using multiple methods is a strategy to support different learning styles among diverse audiences. Second, content and teaching methods should be tailored to the specific audience and learning environment based on training needs analysis recommendations. By gathering information about the learners, identifying opportunities to build trust and engage, and determining potential barriers and facilitators for training, the training needs analysis can help training developers and educators ensure inclusion and accessibility and advance equity through the training.²⁸ Third, audience members might relate more to training developers and educators of the same or similar backgrounds than to an educator from another group. A common practice in public health is to involve members of the primary population in intervention efforts. Those who develop educational programs might consider weighing the benefits of applying that strategy for engagement with the potential detrimental effects of placing onus on persons who might be adversely experiencing inequity themselves.²⁹ Finally, our literature search revealed a gap in evaluation data collection of health equity and DEIA teaching methods, particularly the evaluation of higher levels of the Kirkpatrick Four Levels of Training Evaluation. This finding is not unexpected because collecting evaluation data can be difficult, especially outcome evaluation data after learners have had time to apply what they have learned. Future evaluation of educational programs might consider assessing and sharing longer-term effects at higher levels, including behavior change (K3) and long-lasting results (K4).

Several limitations of this literature review were encountered. The methods identified represent just a few ways that authors have taught health equity and DEIA. Other methods like Universal Design for Learning have been used and may be effective, but without strong evidence of use in the literature, we did not identify them as primary themes. Findings might not be inclusive of trainings related to social determinants of health, which might have been found using topic-specific search terms like K-12 education, housing, preventative care, or transportation. Although training developers and educators are engaged in health equity and DEIA training initiatives to address disparities, educational programs on these concerns remain largely unstudied or unpublished.

We conducted this literature review to support efforts to infuse health equity and DEIA training within DWD's fellowship education programs in addition to supporting the work

of the larger training developer and educator workforce. Fellowships within DWD have a host site design with training curricula built to support and enhance learning.⁵ We have been working to infuse health equity and DEIA principles throughout curricula for different public health topics. After completing this research, we began conducting reviews of all DWD fellowship program curricula to incorporate the 6 methods and training considerations found in this literature review. Ensuring evidence-based methods are applied across all topics was part of a larger effort to embed health equity and DEIA principles into existing structures and processes. We also shared the findings from this research in an internal Health Equity Roundtable, and as a result, prioritized (1) continuing interdisciplinary trainings, (2) embedding health equity principles into guidelines and structures for fellowship curriculum plans, and (3) developing interdisciplinary case studies where multiple fellowships can collaborate on case study and simulation activities. To help address the gap in evaluation data on these methods, we have also developed standardized questions to collect qualitative and quantitative data on the outcomes of our trainings.

Training developers and educators are equipped with different teaching methods to enhance the skills of public health practitioners from multiple disciplines. They can use the method or blend of methods that they determine are culturally appropriate, relevant, and best meet learner needs based on the needs assessment and training needs analysis for the audience and setting. As the national discourse continues to evolve, training developers and educators can continue to play a pivotal role in training public health practitioners by centering health equity and DEIA principles to improve public health.

References

1. Harris JK, Leider JP, Kulik P, Beck A. Training networks of local health departments: a regional assessment. *J Public Health Manag Pract.* 2022;28(1):E256–E263. doi:10.1097/phh.0000000000001274. [PubMed: 33729191]
2. Cinnick S, Gambatese M, Auld ME, Escoffery C, Moon T. Health educators in state/local public health departments: training needs and awareness of emerging areas of public health practice. *Health Promot Pract.* 2023;24(31):523–535. doi:10.1177/15248399221098345. [PubMed: 35838314]
3. Executive Order on Advancing Racial Equity and Support for Underserved Communities Through the Federal Government; 2021.
4. CDC's CORE Commitment to Health Equity. Centers for Disease Control and Prevention. Updated 4/5/2023. Accessed May 20, 2024. <https://www.cdc.gov/healthequity/core/index.html>
5. Fellowships and Training Opportunities. Centers for Disease Control and Prevention. Updated March 12, 2024. Accessed May 21, 2024. <https://www.cdc.gov/fellowships/php/index.html>
6. de Beaumont Foundation. Adapting and Aligning Public Health Strategic Skills. 2021. <https://debeaumont.org/wp-content/uploads/2021/04/Adapting-and-Aligning-Public-Health-Strategic-Skills.pdf>. Accessed March, 2021.
7. Core Competencies for Public Health Professionals. The Council on Linkages Between Academia and Public Health Practice. Accessed May 21, 2024. https://www.phf.org/resourcestools/pages/core_public_health_competencies.aspx
8. What is Health Equity? Centers for Disease Control and Prevention. Updated July 1, 2022. Accessed May 20, 2024. <https://www.cdc.gov/healthequity/whatis/index.html>
9. Media statement from CDC Director Rochelle P. Walensky, MD, MPH, Media Statement on Racism and Health. Thursday, April 8, 2021.
10. Snyder H. Literature review as a research methodology: an overview and guidelines. *J Bus Res.* 2019;104:333–339. doi:10.1016/j.jbusres.2019.07.039.

11. Creswell JW. Research design: qualitative, quantitative, and mixed-methods approaches. *Nurse Res.* 2014;12(1):82–83.
12. Butler CR, O'Hare AM, Kestenbaum BR, Sayre GG, Wong SPY. An introduction to qualitative inquiry. *J Am Soc Nephrol.* 2021;32(6):1275–1278. doi:10.1681/asn.2021040473. [PubMed: 34039668]
13. The Kirkpatrick Model. Kirkpatrick Partners, LLC. Updated 2024. Accessed May 21, 2024. <https://kirkpatrickpartners.com/the-kirkpatrick-model/>
14. Aqil AR, Malik M, Jacques KA, et al. Engaging in anti-oppressive public health teaching: challenges and recommendations. *Pedagogy Health Promot.* 2021;7(4):344–353. doi:10.1177/23733799211045407.
15. de la Croix A, Veen M. The reflective zombie: problematizing the conceptual framework of reflection in medical education. *Perspect Med Educ.* 2018;7(6):394–400. doi:10.1007/s40037-018-0479-9. [PubMed: 30353284]
16. Derreth RT, Jones VC, Levin MB. Preparing public health professionals to address social injustices through critical service-learning. *Pedagogy Health Promot.* 2021;7(4):354–357. doi:10.1177/23733799211007183.
17. Biswas M, Izard R. Infusing diversity content across the curriculum. *Teaching Journalism & Mass Communication.* 2018;8(1):1–16.
18. Costley C, Nottingham P, Nikolou-Walker E. Equality, diversity and inclusion for work and learning in higher education. *Work Based Learning e-J Int.* 2021;10(2):42–52.
19. Hoffer ER. Case-based teaching: using stories for engagement and inclusion. *Int J Soc Educ Sci.* 2020;2(2):75–80.
20. Perdomo J, Tolliver D, Hsu H, et al. Health equity rounds: an interdisciplinary case conference to address implicit bias and structural racism for faculty and trainees. *MedEdPORTAL.* 2019;15:10858. doi:10.15766/mep_2374-8265.10858 [PubMed: 32166114]
21. Vesperman DP. Transforming the activity of teaching a foundation of diversity and equity course. *J Int Soc Studies.* 2020;10(2):90.
22. Castillo-Montoya M. Professors' pedagogical strategies for teaching through diversity. *Rev High Educ.* 2019;42(5):199–226. doi:10.1353/rhe.2019.0050.
23. Davis Denise LF, Tran-Taylor D, Imbert E, Wong JO, Chou CL. Start the way you want to finish: an intensive diversity, equity, inclusion orientation curriculum in undergraduate medical education. *J Med Educ Curric Dev* 2021;8:23821205211000352. doi:10.1177/23821205211000352. [PubMed: 33796793]
24. Kazley AS, Fleming DJ. Teaching MHA students to embrace differences: a diversity and inclusion workshop. *J Health Adm Educ.* 2017;34(3):463–471.
25. Ellison J, Gunther C, Campbell MB, English R, Lazarus C. Critical consciousness as a framework for health equity-focused peer learning. *MedEdPORTAL.* 2021;17:11145. doi:10.15766/mep_2374-8265.11145. [PubMed: 33937521]
26. Silén-Lipponen M, Aura S. Cultural competence learning of the health care students using simulation pedagogy: an integrative review. *Nurse Educ Pract.* 2021;52:103044. doi:10.1016/j.nepr.2021.103044. [PubMed: 33866235]
27. Martinez EK, Hearit LB, Banerji D, Gettings PE, Buzzanell PM. Raising awareness of campus diversity and inclusion: transformationally teaching diversity through narratives of campus experiences and simulated problem solving. *Comm Teacher.* 2018;32(1):19–24. doi:10.1080/17404622.2017.1372618.
28. Quality Training Standards. Centers for Disease Control and Prevention. Updated 4/3/2024. Accessed May 21, 2024. https://www.cdc.gov/training-development/php/qts/?CDC_AAref_Val=https://www.cdc.gov/training/development/standards/index.html
29. McCandless S, Larson SJ. Prioritizing social equity in MPA curricula: a cross-program analysis and a case study. *J Public Aff Educ.* 2018;24(3):361–379. doi:10.1080/15236803.2018.1426429.
30. Ridley LL. Symptomatic leadership in business instruction: how to finally teach diversity and inclusion for lasting change. *J High Educ Theory Pract.* 2018;18(5):112–120. doi:10.33423/jhetp.v18i5.590.

31. Gillson S, Cherian N. The importance of teaching cultural diversity in baccalaureate nursing education. *J Cult Divers*. 2019;26(3):85–88.
32. Hsia SL, Landsfeld A, Lam K, Tuan RL. Implementation and evaluation of a 10-week health equity curriculum for pharmacy students. *Am J Pharm Educ*. 2021;85(9):8579. doi:10.5688/ajpe8579. [PubMed: 34301552]
33. Djulus G, Sheikhan NY, Nawaz E, et al. Advancing allyship through anti-oppression workshops for public health students: a mixed methods pilot evaluation. *Pedagogy Health Promot*. 2021;7(4):304–312. doi:10.1177/2373379920962410.
34. Htun M. Promoting diversity and inclusion through engagement: the APSA 2018 Hackathon. *Polil Sci & Politics*. 2019;52(4):677–683. doi:10.1017/S1049096519000593.
35. Macdonald RH, Beane RJ, Baer EM, et al. Accelerating change: the power of faculty change agents to promote diversity and inclusive teaching practices. *J Geosci Educ*. 2019;67(4):330–339. doi:10.1080/10899995.2019.1624679.

Implications for Policy & Practice

- Public health workforce development programs should include a blend of multiple teaching methods about health equity and DEIA. It is particularly important to embed these concepts into existing structures of experiential learning programs (eg, learner networking, trainings about communication, leadership, and data science).
- The findings in this review can inform public health training developers, educators, residency programs, and experiential workforce development programs to strategically select teaching methods.
- It is a priority need for training developers and educators to publish evaluation results at higher Kirkpatrick levels (eg, behavior change) to build more outcome data evidence for effective health equity and DEIA training methods.

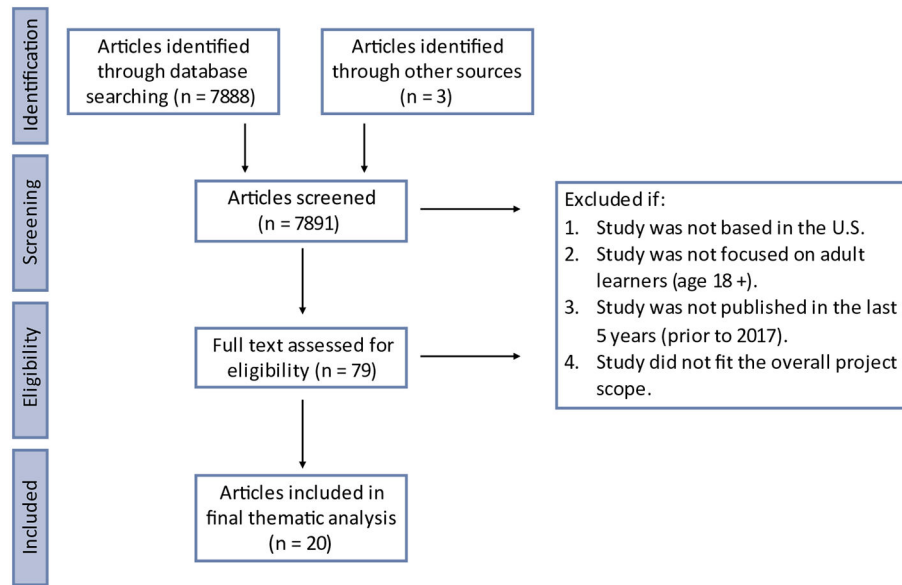


FIGURE 1.
Flow Diagram of the Review Process

TABLE 1
Overview of Training Methods Identified in the Literature on How to Teach Health Equity and DEIA

Method	Description	Example
Critical Reflection	Instructors present their learners with a question or scenario. Learners reflect on the concern in relation to their lived experiences and use that reflection to advance their learning.	Present your learners with the question: “How do you think culture or upbringing affects your ability to navigate the American health care system?” Offer your learners the opportunity to reflect, potentially in a written form or on a discussion board.
Service Learning	Learners are placed in a public health organization to serve the community and practice public health skills in a real-life setting.	Establish a partnership between your program or workplace and a local health department so that your learners can work in a real public health setting and support a local health agency. Work collaboratively to ensure that the project your learners support is in alignment with concepts being learned in the classroom and is beneficial to the health department.
Case Studies	Learners apply public health concepts to realistic scenarios they might experience as working professionals.	Develop a case about a community being affected by environmental racism. Facilitate conversations for your learners to talk through the case and discuss the role that environmental racism plays in health disparities and how DEIA and public health can be a part of the solution.
Peer-Learning/ Dialogue	Learners engage in small- or large-group discussion to reflect on coursework and share their perspectives while learning from the lived experiences of others.	Identify and assign a reading on the differences in health care outcomes for people of different socioeconomic statuses. Ask your learners to discuss their thoughts on the reading in a virtual platform or in person. If the training or educational setting is virtual, you can encourage learners to post comments in the chat and respond to others’ posts to create active discussion.
Workshops	Learners participate in short-term trainings often focused on a specific topic, in this case, that topic being related to health equity and DEIA in public health.	Host a one-day workshop about the importance of accessibility in health communications materials for your workplace. Plan different teaching methods, including keynotes from speakers with expertise on the topic, small group activities and discussions, and opportunities for learners to practice the content being shared.
Simulation Learning	Learners act in the role of the public health interventionist, acting out a given scenario as it may occur in the field.	Present your learners with the following scenario: “You are a health educator at a local health department leading an educational session in the community for expectant mothers. One of your attendees asks several questions related to their needs for other social services (transportation, housing, etc.). How would you, as a health educator, support the specific needs of this attendee and the education of others attending the session?” Cast a learner in the role of the health educator and have them act out the scenario. Debrief with other learners to identify what learners could do if faced with a similar situation in the field.

Abbreviation: DEIA, diversity, equity, inclusion, and accessibility.

TABLE 2

Findings of the Reviewed Literature

Critical Reflection					Kirkpatrick Level of Training Evaluation ^b
Publication	Learners/Setting	Training Developers/ Educators ^a	Strengths	Outcomes	
Aqil et al.—Engaging in anti-oppressive public health teaching. ¹⁴	Public health faculty were interviewed virtually.	N/A	The authors conducted in-depth interviews with 26 public health faculty members at 8 institutions of higher learning to identify key elements of teaching DEIA. The results of these interviews can be beneficial to other instructors seeking to improve their DEIA programs.	The authors found that faculty incorporate anti-oppressive teaching through critical reflection with a focus on facilitating critical consciousness, creating equitable and mindful classrooms, and discussing historical contexts and systems of oppression, alongside discussing challenges associated with using an anti-oppressive lens in teaching.	K1
de la Croix and Veen—The reflective zombie: Problematising the conceptual framework of reflection in medical education. ¹⁵	Medical students	N/A	To help learners dive deeper into reflection, the authors encourage instructors to acknowledge the diversity of reflection, embrace that reflection is a personal experience and exercise, and focus on the practice of reflection in research.	No formal evaluation was described; however, feedback from students was incorporated into the training and was shared in the article with quotes and anecdotes.	K1
McCandless and Larson—Prioritizing social equity in MPA curricula: A cross-program analysis and a case study. ²⁸	Master of Public Administration (MPA) students at a NASPAA-accredited, large research university.	Two PhD candidates and an MPA program director.	The authors used evidence from the literature to develop a 2-week course for MPA students. Assignments included reflection, class discussion, an extended research study, and presentation.	Students completed self-reported surveys related to their understanding of social equity after taking the course. Students reported greater awareness of social equity and greater confidence in using tools and resources to address issues of social equity. The authors used the results to advocate for future iterations of this social equity course in the MPA program.	K1
Service Learning					Kirkpatrick Level of Training Evaluation
Publication	Learners/Setting	Training Developers/ Educators	Strengths	Outcomes	
Biswas and Izard—Infusing diversity content across the curriculum. ¹⁷	Students in 15 different communications and journalism courses at the university level, particularly courses that are not specific to diversity and inclusion.	Communications and journalism instructors and course developers.	This article shows how instructors can use multiple methods, including service learning, to infuse DEIA content into the curriculum of courses without a DEIA focus. Teaching DEIA in non-DEIA-specific educational programs and with hands-on methods like service learning can reinforce the learning.	Fifteen interviews with representatives of communications and journalism programs across the United States and document analysis of coursework.	K2

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Costley et al.—Equality, diversity and inclusion for work and learning in higher education. ¹⁸	Literature review of service learning in higher education courses.	Primarily higher education instructors and curriculum developers.	Practice-based approaches to learning, whether it be a service learning approach or recognition of prior external learning experiences, are valuable and contribute to developing DEIA awareness and make learning applicable for future work in the real world.	N/A. The initiative was still in progress at the time of article publication.	N/A
Derreth et al.—Preparing public health professionals to address social injustices through critical service learning. ¹⁶	Public health graduate students.	Faculty and curriculum developers in public health graduate programs.	Service learning is a method that is uniquely positioned for teaching DEIA concept and encouraging social change because of the combination of practice, research, and reflection.	No evaluation was described by the authors, though it is assumed that student surveys were used according to a supporting article.	N/A

Case-based Learning					
Publication	Learners/Setting	Training Developers/ Educators	Strengths	Outcomes	Kirkpatrick Level of Training Evaluation
Hoffer—Case-based teaching: Using stories for engagement and inclusion. ¹⁹	N/A. This article was an overview as opposed to a deep dive into one specific application.	N/A	Case-based learning has a history in storytelling and application in a variety of disciplines. This teaching method engages students in realistic learning that helps them grasp how concepts are applied in real settings. The authors provided information about the characteristics of good cases so that readers can better create cases for their own educational programs.	Some literature used feedback from participants in the form of surveys and written feedback. Others looked at applicability to work and changes in behavior after the training.	K1 and K2
Perdomo et al.—Health equity rounds: An interdisciplinary case conference to address implicit bias and structural racism for faculty and trainees. ²⁰	Clinicians and faculty at the Boston Medical Center.	Department of Pediatrics Resident Clinicians at Boston Medical Center and the Boston Combined Residency Program.	The authors developed and used a curriculum called “Health Equity Grand Rounds” that used case studies and evidence-based exercises in a quarterly case conference series. The curriculum provided an enclosed forum for practitioners to discuss and address issues of DEIA.	The evaluation took the form of in-room head count, requests to continue solutions-oriented discussion, and paper and electronic surveys. Participants found the “Health Equity Grand Rounds” to be successful.	K1 and K2
Ridley—Symptomatic leadership in business instruction: How to finally teach diversity and inclusion for lasting change. ²⁹	N/A. This was an overview article intended for instructors in colleges of business.	Instructors in business programs and colleges of business.	Instructors used case studies to address issues of historic and current inequity as it relates to business and economic development to bridge the gaps in learning about these topics in business education. By exposing students to scenarios that they might not be personally familiar with, students are encouraged to think differently and take a proactive approach to their learning with the intention of making them more thoughtful leaders.	N/A	N/A

Peer-Learning/Dialogue					Kirkpatrick Level of Training Evaluation
Publication	Learners/Setting	Training Developers/ Educators	Strengths	Outcomes	

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Castillo-Montoya—Professors’ pedagogical strategies for teaching through diversity. ²²	Ethnographic study and literature review that also included observations, syllabi analysis, and hour-long interviews with the faculty and 18 first-generation college students.	The instructors were 2, full-time sociology professors at public Hispanic-Serving Institutions in the New York metropolitan area with a large proportion of African American and Latinx students and first-generation college students.	The article emphasized the value of having a diverse student population, because students can learn from the experiences of others.	No formal evaluation with quantitative outcomes was noted. This was a qualitative study consisting of interviews and observation.	K2
Gillson and Cherian—The importance of teaching cultural diversity in baccalaureate nursing education. ³⁰	Students in a baccalaureate nursing program at a small, diverse, private university.	An instructor in a baccalaureate nursing school program.	The authors advocated for cultural competency education for nursing and health care professionals, to make them more well-rounded when they enter the workforce. They also noted that peer-learning is particularly useful for small group settings and groups with a lot of learner diversity.	N/A	K1
Hsia et al—Implementation and evaluation of a 10-week health equity curriculum for pharmacy students. ³¹	In total, 124 second-year pharmacy students at the University of California, San Francisco School of Pharmacy.	The authors developed and piloted this health equity curriculum in their classrooms based on a transformative learning framework for reducing bias in health care providers. The framework describes a cycle of learning that starts with a disorienting experience, reflection, skill development, and role modeling new skills and behavior to better address a similar situation in the future.	The article focused on health equity specifically compared with other curricula that have a focus on cultural competency or other aspects of DEIA) and used both synchronous and asynchronous teaching methods.	Student feedback indicated that the curriculum was effective for teaching students to reflect on and recognize their biases and communicate with patients to provide more inclusive care.	K1
Vesperman—Transforming the activity of teaching a foundation of diversity and equity course. ²¹	Preservice teachers at the University of Wisconsin-River Falls. In-person and then virtual classroom settings in a course called “Foundations of Diversity and Equity.” Classroom size not specified.	Instructor at the University of Wisconsin-River Falls. This course was primarily a modification of an existing course to transition to a virtual setting due to the COVID-19 pandemic.	Peer learning or dialogue works very well in virtual environments. Instructors shifted to this method during the COVID-19 pandemic designed to allow students to remain engaged with their peers during a time that otherwise could have been extremely isolating.	No formal evaluation was noted. The author did note that assigning postreading as a strategy seemed to be the most effective in promoting asynchronous digital discussions.	K2

Workshops

Publication	Learners/Setting	Training Developers/ Educators	Strengths	Outcomes	Kirkpatrick Level of Training Evaluation
Davis et al—Start the way you want to finish: An intensive diversity, equity, inclusion orientation curriculum in undergraduate medical education. ²³	In total, 615 first-year medical students at a public US medical school in August 2015. This mandatory 2-day intensive in-person workshop was called the “Difference Matters Orientation”	Instructors, leaders, and faculty in the School of Medicine at a US public university medical school.	The workshop was intentionally scheduled in the weeks before the start of classes to get students thinking about DEIA as soon as possible. Cultural competence and cultural humility were also grounding topics of this workshop. The workshop also gave learners	Students completed anonymous evaluations after the workshop where they noted having positive experiences, particularly with relationship-building with their peers. Students also showed an	K1 and K2

Djulus et al—Advancing allyship through anti-oppression workshops for public health students: A mixed methods pilot evaluation. ³²	First-year public health graduate students who specialize in health promotion at the Dalla Lana School of Public Health	Training was facilitated by an emotional literacy coordinator with expertise in providing instruction on intersectionality and anti-oppression.	the opportunity to incorporate personal narratives.	improvement in knowledge-based questions after the workshop.	K1 and K2
Ellison et al—Critical consciousness as a framework for health equity-focused peer learning. ²⁴	In total, participants were 197 first-year medical students at Louisiana State University Health New Orleans School of Medicine.	Second-year LSU School of Medicine students recruited by faculty partners, crafted and facilitated the Critical Consciousness in Medicine series.	This series of workshops were student-led, giving the participants ownership over their learning. The educational objectives focused on DEIA concepts related to health outcomes to develop more informed medical students. Additionally, the workshops included multiple teaching methods, including case studies, small- and large-group discussions.	Qualitative evaluation was conducted at the end of the workshop. Results suggested that the workshops positively influenced students' development of knowledge and skills in critical consciousness learning objectives.	K1
Macdonald et al—Accelerating change: The power of faculty change agents to promote diversity and inclusive teaching practices. ³³	Geoscience faculty at a US 2-year college.	N/A	These workshops focused on developing skills and providing resources to faculty members so that they may be better prepared to teach DEIA to their students.	N/A. The initiative was still in progress at the time of article publication.	N/A
Kazlev and Fleming—Teaching MHA students to embrace differences: A diversity and inclusion workshop. ²⁴	First-year Master of Health Administration (MHA) students at a southeastern US medical university. The education program was delivered during 2011–2015 and had 123 total participants over that time.	Instructors at a southeastern US medical university.	The workshops included multiple teaching methods including discussions, ups and downs, and caucuses. Developers built the training using principles from the National Coalition Building Institute, reinforcing the connection to established science.	After the workshop, participants were surveyed, and the majority reported the information to be applicable and were satisfied with the workshop overall.	K1
Simulation					
Htun—Promoting diversity and inclusion through engagement: The ASPA 2018 Hackathon. ³⁴	Approximately 200 attendees of the 2018 annual meeting of the American Political Science Association (APSA).	The American Political Science Association (APSA).	The Hackathon is an innovative teaching method that attendees enjoyed and could be adapted to other settings. The Hackathon also provided attendees with solutions to problems that they were having in their work that they could take back to their organization and work to implement.	A post-program survey indicated that attendees had a positive experience.	K2 and K3
Martinez et al—Raising awareness of campus diversity and inclusion: Transformatively teaching diversity through narratives	University students of unspecified year and location.	Communications instructors at an unspecified university.	This program offered simulated problem-solving in the classroom with opportunities for critical reflection and dialogue with other students. The authors provided details of the coursework to make this adaptable for others.	Instructors collected qualitative data.	K2

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of campus experiences and
simulated problem solving.²⁶

Abbreviations: DEIA, diversity, equity, inclusion, and accessibility; NASPAA, Network of Schools of Public Policy, Affairs, and Administration.

^aTraining developers or educators refers to the person or persons identified in the article as either the creator of the training or the instructor delivering the training. Training developers and educators may or may not be represented by the same group, and not all articles included distinguished these 2 roles.

^bThe Kirkpatrick Four Levels of Training Evaluation to determine the training efficacy are reaction (K1), learning (K2), behavior (K3), and results (K4).