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Javeed Sukhera

Schulich School of Medicine & Dentistry, javeed.sukhera@lhsc.on.ca

Christopher J. Watling

Schulich School of Medicine & Dentistry

Cristina M. Gonzalez

Albert Einstein College of Medicine of Yeshiva University

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Implicit Bias in Health Professions: From Recognition to Transformation

Javeed Sukhera, MD, PhD, FRCPC, Christopher J. Watling, MD, PhD, and Cristina M. Gonzalez, MD, MEd

Abstract

Implicit bias recognition and management curricula are offered as an increasingly popular solution to address health disparities and advance equity. Despite growth in the field, approaches to implicit bias instruction are varied and have mixed results. The concept of implicit bias recognition and management is relatively nascent, and discussions

related to implicit bias have also evoked critique and controversy. In addition, challenges related to assessment, faculty development, and resistant learners are emerging in the literature. In this context, the authors have reframed implicit bias recognition and management curricula as unique forms of transformative learning that raise critical consciousness

in both individuals and clinical learning environments. The authors have proposed transformative learning theory (TLT) as a guide for implementing educational strategies related to implicit bias in health professions. When viewed through the lens of TLT, curricula to recognize and manage implicit biases are positioned as a tool to advance social justice.

Marginalized groups often experience bias in health care settings, resulting in inequitable treatment.¹ Such disparities can also exist at the organizational or systemic level, leading to poor outcomes.² Implicit biases contribute to health disparities by potentially influencing how health professionals make decisions and communicate within their clinical practice.¹ The problem of implicit biases is that, by definition, they influence health professionals without their knowledge³ and despite their best intentions.⁴ Given their complex nature, multifaceted strategies are required to mitigate the negative impact of bias. Such strategies often include 2 core components: promoting conscious awareness of biases and fostering behavioral changes.^{5–15} We describe this process as implicit bias recognition and management (IBRM).

Educational efforts to address biases are constrained by numerous barriers. Even well-intentioned learners may find the process of discussing and reflecting on biases challenging, while faculty may be reticent to facilitate such instruction.^{16,17}

Constraints exist beyond the individual level; research suggests that clinical learning environments may undo efforts in formal bias-related instruction while perpetuating or worsening existing biases.^{2–4,16} In addition, increased awareness of implicit bias can have consequences for learners. If individuals become aware of the hidden influence of bias on themselves and their workplace environment, they experience dissonance and discomfort.^{17–19} Therefore, education to address implicit bias must enhance skills to both recognize and manage such biases.

Despite growing interest, IBRM is an underdeveloped and undertheorized area within health professions education.²⁰ An example is the controversy surrounding the implicit association test (IAT), which is an important contributor to our knowledge on implicit bias.²¹ The IAT has been extensively critiqued,^{22–26} and within health professions education there are contrasting perspectives on whether it should be used as a metric of bias or as a prompt to trigger reflection.²⁷ In addition, a recent review found mixed results on the effects of implicit bias-related training,²⁰ highlighting the need for further empirical and theoretical scrutiny on implicit bias-related instruction. Health professions education should be well informed by learning theories to avoid superficial understanding of concepts when curricula are designed, implemented, and evaluated.²⁸ Until we develop sound, theory-informed educational strategies to facilitate IBRM,

the potential of bias training will remain limited.

In this Perspective, we propose transformative learning theory (TLT) as both an explanatory framework and a guide to inform instructional design related to implicit bias. As a research tool, TLT provides a beneficial lens through which to explore health professions education topics that require space for critical reflection and discourse, or experiences that are inherently discomforting.²⁹ As an instructional design tool, TLT can inform the development of curricula that engage learners in multiple sessions of instruction with the goal of skill acquisition, practice, and behavior change.³⁰ Below, we elaborate the tenets of TLT, and then we offer practical examples of educational strategies that can be implemented for each of its phases.

A Primer on Transformative Learning

In 1978, Jack Mezirow published his initial work on TLT, building upon the work of other scholars.³⁰ TLT contrasted with the restrictive focus on skill acquisition that was central to adult learning at the time.^{31,32} TLT suggests that learning involves a process triggered by disruption, followed by a revised interpretation of experiences that guide an individual's actions. Figure 1 provides a visual depiction of the process of transformation, which requires central

Please see the end of this article for information about the authors.

Correspondence should be addressed to Javeed Sukhera, London Health Sciences Center—Victoria Hospital, 800 Commissioners Rd. E, Suite B8-176, London, Ontario, Canada N6A 5W9; telephone: (519) 685-8500, ext. 74968; email: jsukhera@uwo.ca.

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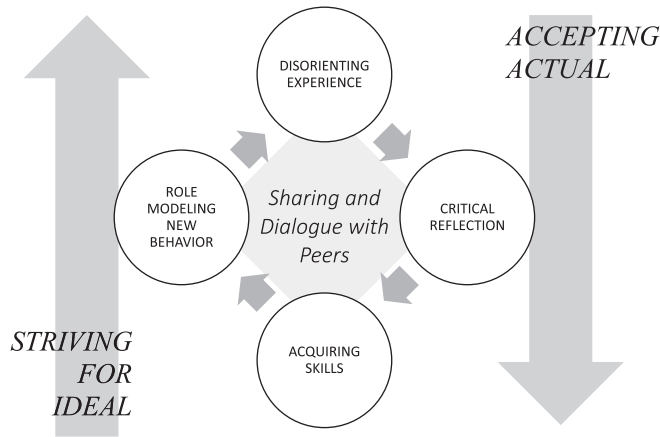


Figure 1 A visual depiction of how the elements of transformative learning theory align with those of implicit bias recognition and management curricula.

IBRM as a Form of Transformative Learning

The aims of IBRM curricula align well with the principles of TLT. Figure 1 integrates central ingredients for both. Since the introduction of the IAT in 1998, IBRM has evolved from a diverse combination of strategies such as checklists³⁷ and debiasing strategies³⁸ toward recognition that changing biases is difficult because they are reinforced by social and cultural norms.^{39,40} Therefore, some educators advocate that curricula nurture skills to recognize when bias influences clinical care and mitigate the influence of such bias on clinical outcomes.⁹

ingredients including experience, critical reflection, dialogue, and action.³³ An activating experience triggers learners to examine their thinking and question their assumptions. Critical reflection is facilitated through counterexamples or alternative scenarios. Dialogue can be both social and personal, including facilitated discussion with faculty, and action affords learners an opportunity to test their new perspective.

Mezirow argued that reflection and dialogue synergistically influence one another to foster transformation of an individual’s personal paradigm.³⁴ Such transformation occurs through stressful experiences that provoke individuals to critically question deeply held beliefs and assumptions. Transformative education therefore replaces distorted or unjustified assumptions with a more inclusive, self-reflective, and integrative frame of reference.³⁵ There are certain types of health professions learning that may be particularly informed by TLT. For example, experiential learning that involves a triggering or evocative experience, such as global health learning, may be more transformative than a didactic lecture about malaria.

There are also several phases of perspective transformation, starting from a stressful experience, which Mezirow characterized as a “disorienting dilemma.”³⁰ Once provoked by this disorienting dilemma, individuals experience strong emotions and engage in a process of self-examination. Next is a critical assessment of assumptions, followed by insight that there are others

who experience similar discomfort and are negotiating similar change. Learners then begin to explore options for new roles, relationships, and actions, planning a new course by acquiring new knowledge and skills, experimenting with new roles, building competence in those new roles and relationships, and finally integrating a new perspective.³⁰ Through this process, TLT produces change agents who take action with their new perspective.³³

Mezirow suggested that individuals have a specific frame of reference that is developed from experience and strongly influences their thinking, beliefs, and actions.³³ In contrast to skill acquisition, individuals who undergo transformative learning experience a perspective transformation that enhances their frame of reference to become more permeable, critically reflective, and integrative. The goals of transformative learning are to increase awareness of how we construct reality and to enhance the capacity to break free of limiting structures that shape our understanding of our experiences.³⁵ Increased awareness also works in tandem with behavioral change, as learners seek to revise their interpretations and act to make changes within their learning environment. An illustrative example would be placing a health professions learner in a challenging geographic setting for experiential or community service learning. For instance, placing health professions learners in rural and remote settings facilitates cross-cultural interactions that produce dissonance, promote skill development, and require dialogue.³⁶

The first step in moving from dissonance to behavior change mirrors the move from Mezirow’s “disorienting dilemma” toward critical reflection. Existing research further describes the role of medical education in reducing bias and fostering critical questioning of assumptions, which is analogous to critical reflection and guided discourse in TLT.^{7,8,41} For instance, authors cite the role of transformative learning in reducing disparities, addressing the social determinants of health, and producing social change through promoting critical engagement and fostering the creation of more equitable conditions.⁴² Overall, moving from bias recognition toward transformation parallels the process of advancing critical consciousness intrinsic to both TLT and IBRM.⁷ Both seek to increase awareness of how we construct reality and how we become “critically aware of how and why our assumptions have come to constrain the way we perceive, understand, and feel about the world.”^{35(p167)} Figure 1 provides a visual depiction of how both approaches may be aligned.

Consistent with TLT, a useful starting point in IBRM is a dissonant learning experience, such as surfacing biases through learning exercises designed to provoke critical reflection for learners. In previous research, health professionals who received feedback about their biases from the IAT experienced cognitive dissonance; they described striking emotional reactions to this information and sought to reconcile their idealized version of themselves with this new reality.^{17–19} After receiving their IAT results, health professionals were able

to process their dissonance through discussion and reflection. Participants acknowledged that learning they had biases triggered a discrepancy between who they felt they should be as a health professional and their intrinsic shortcomings. They described a process they called “striving while accepting.”¹⁸ Relationships were also central to the process of reconciliation, highlighting the role of guided discourse essential for both IBRM and TLT.¹⁸ Therefore, in this and other examples, triggering awareness of implicit bias is an example of Mezirow’s disorienting dilemma.

In both approaches, disruption involves individuals and their learning environments. Research on IBRM suggests that as health professionals begin to accept that they can never eliminate all their biases, they also confront that they are learning within an environment that reinforces and contributes to these biases.^{2,40} Reconciling bias involves changing behavior while critically questioning the sociocultural norms that developed biases and perpetuated discrimination within the workplace. While Mezirow’s theory emphasizes the role of individual transformation, his work is greatly influenced by authors such as Habermas and Freire, who affirm the role of education in transforming social structures to improve equity and reduce oppression.⁴¹ Mezirow himself increasingly saw transformation as both an individual and social process as he revised and expanded his theory in later years.³¹

TLT as a Framework for Instructional Design

In addition to providing an explanatory framework, TLT may also inform instructional design strategies. The 4 main components of TLT include the experience, critical reflection, dialogue, and action (behavioral change). Table 1 provides a summary of how TLT may inform instructional design for IBRM, including examples of strategies.

Educators can create the dissonant or disorienting experience for learners by provoking critical reflection on assumptions. Triggering a disorienting experience can be facilitated by using a diverse set of elicitation strategies such as a quote, visual stimulus, or case. A well-constructed experience

Table 1

Elements of Transformative Learning Theory, Associated Educational Strategies, and Examples Relevant to Implicit Bias Recognition and Management Curricula

Element	Educational strategy	Example
Disorienting experience	Implicit association test	Participants complete the online implicit association test as a prompt for discussion and reflection.
	Multisource feedback	Participants review feedback from patients and/or colleagues highlighting how biases adversely influence behavior.
	First-thought exercise	Participants react silently to a written prompt or an image. After the actual scenario is described, biases in initial assumptions are revealed.
	Video observation	Participants watch a video of an interaction with a patient in which examples of implicit bias are evident.
Critical reflection and dialogue	Self-reflection exercise	In this critical reflection exercise, participants engage in a “think-pair-share” with one another to reflect on and discuss the cultures they belong to.
	Large-group discussion	Learners can be asked to discuss experiences in which they observed how implicit bias adversely influenced patient care in their learning environments. Case examples may also be used to elicit discussion.
Skill acquisition and behavior change	Role play	In this role-play exercise, participants are challenged to simulate a patient journey through their clinical environment that reflects the impact of implicit bias.
	Standardized/virtual patient	Simulation helps encourage learners to identify and commit to strategies that they can use if they are participating in and/or witnessing a potentially biased clinical encounter.

can create initial awareness of bias as a concept, the existence of bias in oneself, and the potential for it to influence clinical practice behaviors. Published curricula describe using exercises about assumptions^{6,12} or the IAT as a provocative trigger.^{27,42} Other options include narrative prompts regarding experiences on clinical rotations that may have been influenced by bias, and video observation.^{12,13,43} For example, teaching videos can highlight clinical encounters influenced by bias with special attention to the lingering effects of implicit bias on trust and treatment seeking with patients. Such videos can stress how clinical encounters are perceived differently by patients and health professionals when bias is activated. Video curricula can be adapted from previously established resources available on MedEdPORTAL.⁴⁴ Similarly, having speakers who share their lived experiences of implicit bias can have a powerful impact.

Once discomfort is triggered, critical reflection and dialogue are essential to reconcile tension within learners. Critical reflection can be elicited through prompts for written narratives or during small-group discussions.^{4,9-11,13,14} For example, learners can be asked to write

about an experience in which they observed how implicit bias adversely influenced patient care in their learning environments. Educators should also ensure sufficient time for discussion during classroom activities or debates. Critical reflection allows learners to find meaning in the experience, and facilitators can guide discourse by reflecting on an individual’s personal and professional identity through a deeply moving and reflective discussion.^{18,45}

Alongside critical reflection, facilitated dialogue can promote learners’ gradual acceptance of their biases while also enabling them to work toward managing those biases. Consistent with other theory-oriented models of facilitated dialogue from feedback research, relationships between teachers and learners can facilitate safe, open discussion on biases and provide an opportunity for teachers to coach for performance change.⁴⁶ For example, teachers may explicitly encourage learners to identify and commit to strategies that they can use if they are participating in and/or witnessing a potentially biased clinical encounter.⁴⁷ Existing curricula on dialogue and debriefing may inform the structure of such activities. For example,

Isaac and colleagues found that 3 ideas facilitated difficult bias-related dialogue: (1) reinforcing the idea that implicit bias is normal and pervasive, (2) discussing topics through humility, and (3) creating a safe learning environment.⁴⁸

Dialogue and critical reflection will be insufficient to translate into meaningful change without attention to skill development. Active learning strategies can build on newly transformed perspectives and engage learners as they practice skills and apply them toward behavior change. Skill-building activities may enhance learners' ability to acknowledge bias that a patient perceives thereby enabling them to use communication skills to acknowledge discomfort and repair the perception of broken trust during the encounter.^{14,49,50}

Specific activities that facilitate skill development related to IBRM include carefully constructed role-plays, standardized patient and virtual patient exercises, and formative feedback in a simulated environment. These simulations have several advantages: (1) they allow learners to convert emotional energy into motivation for behavior change⁵⁰; (2) they safely and respectfully confront learners with a challenge to their existing knowledge, through a critical incident; and (3) they facilitate learner buy-in and overcome resistance from learners who think this type of skill is "common sense."⁵¹ Simulations can be constructed to train bystanders who witness a potentially biased event to build communication skills and to improve clinical decision making. Simulation cases should be carefully designed and relevant to teaching context. For example, clinical teaching cases could demonstrate a health care provider diagnosing a patient with shortness of breath and a history of anxiety with panic disorder while missing a pulmonary embolism, or a committee struggling to incorporate diverse perspectives and developing a biased admissions policy. Ideally, simulation scripts and feedback mechanisms would be cocreated through engagement with groups who have experienced the marginalizing effects of implicit bias.

Formative feedback during simulations can prompt reflection and facilitate behavior change.⁵² Virtual patients allow for more interactive role-playing within a safe and private context as these

simulations can occur on the learner's personal laptop. Virtual patients also have the potential to change attitudes by capitalizing on a safe and anonymous learning environment for learners to address biases without fear of retribution. For example, a learner's behavior with the virtual patient may reveal attitudes on implicit bias that differ from their publicly stated attitudes. In a private context, the learner's aversive arousal becomes more salient, leading to attitude and behavior change without feelings of shame or guilt.⁵³

In addition to the central elements of TLT, research on IBRM adds that a safe and respectful learning environment must be cultivated to optimize the outcome of any educational strategies to address sensitive topics such as implicit bias.³⁴ If IBRM encourages participants to call out biased behavior within their organization, repercussions or censure may follow. Such unintended consequences should be considered in the design of educational interventions.⁴⁰ Examples from the literature on how to enhance the safety of the learning environment include using senior students as cofacilitators with faculty to flatten the hierarchy, assuring confidentiality of discussions, setting ground rules in a collaborative manner, and having facilitators role model times when they themselves have been biased.¹⁵ Another practical strategy is to use cards with "honest inquiry" and "honest reaction" written on each side to serve as visual aids of safety when learners are delving into more emotionally charged aspects of instruction.⁴⁷ Time is an additional factor that builds trust. IBRM training conducted within learning communities or longitudinal small groups leverages the comfort built over time.^{54,55}

Several authors have also suggested that any education relating to implicit bias should normalize bias, highlighting its ubiquitous nature in society.³⁹ Disorienting dilemmas catalyze personal paradigm shifts and can also engender an ego-dystonic reaction when individuals who see themselves as good people who are doing their best to take excellent care of patients become aware of their implicit biases.^{16,17,56} As such, experiences should be followed not only by critical reflection and dialogue but also by the opportunity for further discussion as

needed to allow learners to voice their concerns, to keep them engaged, and to avoid unintended consequences.^{5,10} In our experience, learners often use heuristics and biases such as pattern recognition to engage in clinical reasoning tasks. As a result, it can be a challenge to reconcile what we are taught as part of clinical reasoning strategies and what we attempt to teach about implicit biases. Therefore, when teaching about biases, instructors may want to highlight why mathematical probabilities can be problematic when applied to concepts such as race or gender: for example, highlighting that some aspects of clinical reasoning may be enhanced by biases, while others may be badly distorted (such as underdiagnosis of cardiac ischemia in women). In addition, running a single training session or workshop will simply be insufficient to address the harmful impact of implicit bias in a meaningful and effective way.

Addressing Barriers to Transformation

Despite advances in IBRM, several challenges to successful implementation remain. First, faculty development to foster sensitive discussions regarding bias is lacking. Second, attention to structural inequities as an etiology of implicit biases is often missing from educational approaches. Third, current approaches to improve IBRM tend to focus on singular training sessions rather than on embracing longitudinal education. Lastly, assessment strategies are varied and challenging to implement.

Teaching and learning about implicit bias are fraught with challenges for faculty. While facilitation skills are not necessarily intuitive, faculty development programs can build upon clinical training and feedback provision to facilitate effective debriefing. In addition, faculty resistance to engaging as facilitators for IBRM education may relate to threats the sensitive subject matter poses to their self-efficacy or personal identity, to anticipated resistance from learners and colleagues, or to barriers that exist within the organizational culture or the hidden curriculum.¹⁶ Therefore, faculty development programs should anticipate these threats and elicit specific perspectives from local faculty to both contextualize and maximize the relevance of the content delivered. Several studies

have highlighted core ingredients of faculty development such as the central role of humility and self-regulation during difficult discussions.^{18,48} In our previous faculty development trainings to facilitate small-group sessions on IBRM for medical students, we have had success with carefully designed, comprehensive facilitator guides. We provide if–then statements, suggested talking points, and facilitator tips throughout the guide as well as specific tips for managing resistant learners within small-group sessions. Examples of tips are the following: “If students are skeptical about the impact of implicit bias on clinical practice, then facilitators should provide an example from the instructor’s own clinical practice,” and “if the student feels hopeless about how to manage their biases, then facilitators could reflect on how they reconcile the tensions intrinsic to striving for change while accepting that removing all bias is impossible.”

Faculty development may also be enhanced when organizations disseminate information about the topic of IBRM to sensitize both faculty and learners.⁴⁷ Another way to counter potentially negative influences of the organizational culture and the hidden curriculum is to design faculty development initiatives with explicit attention to how bias replicates and manifests through tacit forces. Therefore, faculty are encouraged to be both trainers and role models, addressing and debriefing biased encounters in real time as part of their epistemology of practice.^{15,57–59}

Implicit bias also manifests in organizations, and efforts at training individuals will prove futile if attention is not given to contextual influences and structural biases. In previous research, participants who completed IBRM training were followed longitudinally within their learning environment and described an initial resistance to change that was influenced by the sociocultural norms within their organization. In response to their training, they adaptively reinvented their roles as both clinicians and role models. The social process of explicit role modeling seemed to increase agency and shaped the development of perceived structural changes.⁴⁰ This example dovetails with the intention of TLT to transform social structures. While more research is required to determine which approaches are most effective,

several strategies hold promise for the future.

There are also multiple opportunities for organizational leaders to optimize the transformative potential of instruction in IBRM. Rather than singular curricular interventions, programs must include opportunities to refresh and repeat key messages with attention to sustainable behavior change over time.^{4,15,39,60,61} Having IBRM as an institutional priority with visible messaging may enhance buy-in from otherwise resistant learners and faculty and help motivate individual and organizational change. There is limited research on organization-wide interventions to address bias; however, Carnes and colleagues conducted an organization intervention to address gender bias in 92 departments over several years that may provide insights. The intervention was successful in departments where at least 25% of staff attended bias training, and presence of department leadership at the training did not affect outcome.⁶²

Assessing the impact of IBRM and TLT is another challenge. There is a paucity of research on learner assessment paradigms for both TLT and IBRM. Approaches vary from validated instruments⁶³ to the use of portfolios, reflective writing, and logbooks.^{64,65} For instance, Willink and Jacobs suggest that an assessment framework for TLT could be anchored on communicative capabilities such as emotional discernment, openness, dialogue, and reflection.⁶⁶ Similarly, assessment strategies for IBRM curricula are constrained by a lack of research in this area.³⁹ Despite these challenges, there may be promising approaches that merit further investigation. An example is the use of unannounced standardized patients.^{67–69} Such patients provide a glimpse into what happens in clinical encounters through indirect means that are more indicative than simulations or clinical examinations of real-world situations in which implicit bias plays a role in clinical scenarios.⁷⁰ Overall, there is consensus that no single strategy will be sufficient.⁷¹

Conclusion

Approaches to IBRM are varied, critiqued, and relatively underdeveloped in health professions education. By viewing IBRM curricula as a form of transformative learning, we propose

an alignment between IBRM and other approaches that raise critical consciousness through dissonant learning experiences, critical reflection, guided dialogue, and fostering sustainable behavioral change. Educators can take practical steps to integrating IBRM into existing curricula by using the components of TLT as a scaffolding for instructional design. Given the multiple barriers identified, effectively implementing IBRM may involve empowering faculty as role models while leveraging organizational leadership to not only train individuals but also apply a critical lens to how bias is embedded within organizational policies and processes. When viewed through the lens of TLT, educational efforts to promote the recognition and management of implicit biases may therefore advance from recognition toward transformation.

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J. Sukhera is associate professor of psychiatry and pediatrics and scientist, Centre for Education Research and Innovation, Schulich School of Medicine and Dentistry, Western University, London, Ontario, Canada; ORCID: <http://orcid.org/0000-0001-8146-4947>.

C.J. Watling is professor of clinical neurological sciences and oncology and associate dean for postgraduate medical education, Schulich School of Medicine and Dentistry, Western University, London, Ontario, Canada.

C.M. Gonzalez is associate professor of medicine, Albert Einstein College of Medicine and Montefiore Medical Center, Bronx, New York. At the time of writing, she was also a scholar, Macy Faculty Scholars Program, Josiah Macy Jr. Foundation, and Amos Medical Faculty Development Program, Robert Wood Johnson Foundation.

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