

# Acquired and Participatory Competencies in Health Professions Education: Definition and Assessment in Global Health

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## Abstract

Many health professions education programs in high-income countries (HICs) have adopted a competency-based approach to learning. Although global health programs have followed this trend, defining and assessing competencies has proven problematic, particularly in resource-constrained settings of low- and middle-income countries (LMICs) where HIC students and trainees perform elective work. In part, this is due to programs failing to take sufficient account of local learning, cultural, and health contexts.

A major divide between HIC and LMIC settings is that the learning contexts of HICs are predominantly individualist,

whereas those of LMICs are generally collectivist. Individualist cultures view learning as something that the individual acquires independent of context and can possess; collectivist cultures view learning as arising dynamically from specific contexts through group participation.

To bridge the individualist–collectivist learning divide, the author proposes that competencies be classified as either *acquired* or *participatory*. Acquired competencies can be transferred across contexts and assessed using traditional psychometric approaches; participatory competencies are linked to contexts and require alternative assessment approaches. The author proposes assessing

participatory competencies through the approach of self-directed assessment seeking, which includes multiple members of the health care team as assessors.

The proposed classification of competencies as acquired or participatory may apply across health professions. The author suggests advancing participatory competencies through mental models of sharing. In global health education, the author recommends developing three new competency domains rooted in participatory learning, collectivism, and sharing: resourceful learning; transprofessionalism and transformative learning; and social justice and health equity.

The more complete model of competence focuses on communities of practice and on individual expertise and, importantly, the interactions between them, recognizing that humans possess both individual wisdom and social connectedness. Future research should explore in greater depth the nature of this “situated shared competence.”

—Leung et al<sup>1</sup>

**G**lobal health programs in high-income countries (HICs) continue to proliferate, with many following the trend in health professions education toward competency-

based learning. Furthermore, a majority of these programs are adopting a paradigm in which students and trainees undertake elective work for periods of one or more months in resource-constrained settings in low- and middle-income countries (LMICs).<sup>2,3</sup> In this paradigm of global health education, defining and assessing competencies presents several challenges.

These challenges, as I delineated in a recent Commentary<sup>4</sup> in *Academic Medicine*, include:

- the failure of HIC programs to take sufficient account of the specificity of local health contexts in low-resource settings and to be inclusive of LMIC health professionals and workers in the development of context-specific competencies;
- an underappreciation of the “disjunction” between the individualism prevalent in cultural and learning contexts in HICs and the collectivism in LMIC contexts<sup>2,3</sup>; and
- the shortcomings in the assessment of global health competencies of students and trainees from HICs working in the low-resource settings of LMICs.

We need to address these challenges to create significant, transformative learning experiences<sup>5</sup> that move beyond the colonialist legacy of global health<sup>6,7</sup> and to develop equitable partnerships based on interdependence and sharing. In this Perspective, I address these challenges as follows. First, aiming to bridge the disjunction between individualist and collectivist approaches to learning and competency, I propose a classification system of “acquired” and “participatory” competencies. Second, I suggest how we might effectively assess participatory competencies through the approach of self-directed assessment seeking.<sup>8,9</sup> Third, I elaborate on metaphors of sharing to promote the emerging concept of situated shared competence.<sup>1</sup> Finally, I propose three new global health competency domains that derive from this article’s concepts of situated learning, participatory competency, and sharing.

I begin by providing a brief overview of key points from my recent Commentary<sup>4</sup> regarding learning contexts and metaphors of acquisition and participation to provide background and context; throughout, I build upon those

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ideas. My goal is to bring fresh metaphors and innovative learning approaches into the global health competency debate; furthermore, I aim to develop a classification system for competencies that takes account of learning contexts and thereby permits more effective and valid assessment of such competencies. By focusing on the specifics of health contexts and applying recent theories and methodologies from medical education to the debate about global health competencies, we can begin to develop equitable, interdependent global health partnerships.

### The Problem of Contexts

A central question in the debate about global health competencies is whether such competencies are “context-linked” or “context-free.”<sup>4</sup> Although the relationship between competencies and contexts determines how individuals learn such competencies and how they are assessed, contexts are, unfortunately, often left implicit for learners.<sup>10</sup> If competencies are *context-free*, they can be learned at any time and place, and we can assess learners on these competencies, independent of context. Competencies learned in one context can be transferred and applied in other contexts. This view posits that a competent individual is generally competent across contexts, and that the individual’s performance in one context predicts performance in other similar contexts.<sup>11</sup> In contrast, if competencies are *context-linked*, they cannot be transferred across contexts; rather, they must be learned and assessed in specific relation to those contexts.<sup>11</sup> Experienced global health workers recognize that competence in one health context does not necessarily transfer to a different context.<sup>4</sup>

Global health programs in HICs have largely failed to take adequate account of the specificity of local health contexts in LMICs.<sup>4</sup> They tend to teach generic lists of competencies, independent of context, and conveniently consider such competencies transferable across the diverse LMIC sites that their trainees choose for electives.<sup>12</sup> This failure in accounting for contexts compromises the effective assessment of global health competencies.

I propose a classification of competencies into those that individuals can acquire independent of context (*acquired*

*competencies*) and those that are linked to specific health context(s) and depend on participation in the dynamic social interactions of the context (*participatory competencies*). Acquired and participatory competencies require different modes of assessment (which I will discuss later in this Perspective).

### Acquired and Participatory Competencies

The idea that learning is something that an individual can acquire, retain and exploit for personal gain is almost unthinkable from a collectivist perspective.

—Bleakley et al<sup>13</sup>

Can an individual learn and simply check off a competency such as “counsel a dying patient”? Or is this competency too culturally and socially complex and too contextually situated to be so readily learned? These questions were the basis for an animated discussion during a workshop at a 2014 meeting of the Medical Education Partnership Initiative (MEPI) of the U.S. President’s Emergency Plan for AIDS Relief (PEPFAR) in Mozambique. Classifying global health and other health professions competencies as acquired or participatory might have helped resolve this debate. Counseling a dying patient would be classified as a participatory competency: It is highly dependent on context and cannot be generically transferred across contexts.

### Learning approaches: Acquisition and participation, individualism and collectivism

Sfard<sup>14</sup> makes the distinction between approaches to learning using the metaphors of “acquisition” and “participation.” The *acquisition* metaphor views learning as something the individual can acquire and possess, that can be transferred across contexts, and for which the individual can therefore be effectively assessed. The *participation* metaphor views learning as being socially and contextually “situated,” arising dynamically through participation and shared interactions within groups and communities. In other words, “participation is learning” and “learning (like participation) is viewed as a continuous process” rather than as a static acquisition or attribute of the individual.<sup>11,14</sup> Learning, by this view, is inextricably linked to contexts rather than transferable.

Another discourse of central relevance to global health education and the question of competence is the distinction between *individualist* and *collectivist* approaches to learning.<sup>3,11</sup> HICs that rank high in individualism and autonomy are generally individualist in their approach to learning insofar as they view learning as something that occurs within the individual and is acquired and “possessed”<sup>11,14</sup> by the individual. LMICs understand themselves primarily in terms of the group, or collective, and view learning as arising dynamically out of group interactions and participation. The learning metaphors of acquisition and participation thus predominate, respectively, in individualist and collectivist cultures.

Both metaphors have validity, and they should be integrated to “bring to the fore the advantages of each” because there are “dangers in choosing just one.”<sup>14</sup> Be that as it may, when trainees from individualist cultures work and learn in collectivist culture settings, a disjunction of perspectives, attitudes, and approaches to learning may lead to a learning dissonance. For example, HIC trainees’ competitive and proactive individualist approach to learning may clash with the more collaborative and participatory collectivist approach to learning in the host LMIC.<sup>4</sup>

### Classifying competencies as acquired or participatory

The core competency lists of major health professional organizations—such as those of the Accreditation Council for Graduate Medical Education (ACGME)<sup>15</sup> in the United States and the Royal College of Physicians and Surgeons of Canada (CanMEDS framework)<sup>16</sup> do not make the distinction between individualist and collectivist cultures and their respective approaches to learning. This shortfall, I believe, compromises the assessment of competencies, especially in global health education.

I propose a model in which medical educators classify competencies as either *acquired* or *participatory*. Acquired competencies would be those that the individual can acquire and possess and that we can assess using standard methods such as direct observation and psychometric evaluation.<sup>17,18</sup> In this model, the ACGME core competency domains<sup>15</sup> of medical knowledge and

patient care would, in most medical specialties, be composed mostly of acquired competencies. Competencies in the other four ACGME core competency domains (practice-based learning and improvement, systems-based practice, professionalism, and interpersonal skills and communication) would include, in most medical specialties, a preponderance of participatory competencies.

Consider the specialty of ophthalmology as an example. In the competency domain of medical knowledge, this specialty lists the following competency: “Must demonstrate competencies in their knowledge of: cataract surgery, contact lenses, cornea and external disease, eye abnormalities, glaucoma ...” (IV.A.5.b.[2]).<sup>19</sup> We would classify this as an *acquired* competency because it encompasses knowledge and technical skills that the individual trainee can readily acquire and possess—moreover, we can assess such an individual for acquisition of this competency through direct observation and standardized metrics.

On the other hand, a number of competencies in other core competency domains cannot be individually acquired and standardly assessed. Consider in ophthalmology the following competency listed in the competency domain of interpersonal and communication skills: “Communicate effectively with patients, families, and

the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds” (IV.A.5.d.[1]).<sup>19</sup> We would classify this competency as *participatory*. Participatory competencies are “situated”<sup>20</sup> in dynamic social contexts involving other individuals and groups, and we cannot readily assess them through direct observation or standard metrics.

Applying these classifications to the global health competency models of four major global and public health organizations reveals a blend of acquired and participatory competencies in each (Table 1). The Association of Schools of Public Health,<sup>21</sup> World Health Organization,<sup>22</sup> and Consortium of Universities for Global Health<sup>23</sup> models show a trend toward participatory competencies (e.g., “Communicating in a credible and effective way”<sup>22</sup>), whereas the Joint U.S./Canadian Committee on Global Health Core Competencies<sup>24</sup> model contains more acquired competencies (e.g., “Describe the concept of a pandemic and how global commerce and travel contribute to the spread of pandemics”).

Classifying competencies in each of these models into those that can be individually acquired and those that are learned through participation in dynamic social interactions allows us to understand more clearly what is at stake in the learning of each competency

and how most effectively to assess each competency.

### Assessment of Participatory Competencies

Assessing competencies of HIC trainees working in resource-constrained settings in LMICs presents several challenges, as outlined above and discussed in my Commentary.<sup>4</sup> Classifying competencies as acquired or participatory alleviates some of these shortcomings. Although we can assess acquired competencies by direct observation and standard psychometric methods, assessing participatory competencies—particularly in collectivist settings—requires a multidimensional approach involving the trainee and other members of the health care team. The most congruent method for assessing participatory competencies is *self-directed assessment seeking*.<sup>4</sup> In this approach, the trainee proactively seeks feedback and assessment from a range of relevant sources (while being empowered by faculty and the health care system to do so); subsequently, the trainee translates this feedback into improving his/her performance.<sup>8</sup>

To avoid the hazards of overconfidence and self-misjudgment that result in inaccurate self-assessment, Boud<sup>25</sup> insists that “self-assessment should not imply individualistic activity [but] should commonly involve peers, teachers, and

**Table 1**  
**Competency Domain Models of Four Major Global/Public Health Organizations**

Association of Schools of Public Health: Global Health Competency Model <sup>21</sup>	World Health Organization: WHO Global Competency Model <sup>22</sup>	Consortium of Universities for Global Health (CUGH): Domains Identified for Initial Competency Ranking <sup>23,a</sup>	Joint U.S./Canadian Committee on Global Health Core Competencies: Global Health Essential Core Competencies <sup>24</sup>
1. Capacity strengthening	1. Communicating in a credible and effective way	1. Global burden of disease	1. Global burden of disease
2. Collaborating and partnering	2. Knowing and managing yourself	2. Globalization of health and health care	2. Health implications of travel, migration, and displacement
3. Ethical reasoning and professional practice	3. Producing results	3. Social and environmental determinants of health	3. Social and economic determinants of health
4. Health equity and social justice	4. Moving forward in a changing environment	4. Capacity strengthening	4. Population, resources, and environment
5. Program management	5. Fostering integration and teamwork	5. Teamwork/collaboration and communication	5. Globalization of health and health care
6. Sociocultural and political awareness	6. Respecting and promoting individual and cultural differences	6. Ethical reasoning	6. Health care in low-resource settings
7. Strategic analysis	7. Setting an example	7. Professional practice	7. Human rights and global health
		8. Health equity and social justice	
		9. Program management	
		10. Social, cultural, and political awareness	
		11. Strategic analysis	
		12. Communication	

<sup>a</sup>CUGH is developing a comprehensive, revised Toolkit of Global Health Competencies, to be posted on its Web site ([www.CUGH.org](http://www.CUGH.org)).

other sources of information.” The inclusion and participation of such “external sources”<sup>8</sup> as coassessors, in contrast to having just a single assessing preceptor, enhance the validity and reliability of assessments.<sup>25,26</sup> A recent study by Moonen-van Loon et al<sup>27</sup> concluded that having multiple assessors evaluate resident competence was more reliable than using single assessors (or than using self-assessment alone), although the unique characteristics of the assessor group and the competencies being assessed could affect such reliability.

The approach of self-directed assessment seeking, which includes team members, peers, teachers, and other sources, is befitting for assessing participatory competencies. In low-resource settings in LMICs, the other sources might include ancillary health care workers who have worked and interacted with the trainee (e.g., nurses, medical officers, administrators, community workers). This would be consonant with the notion of “transprofessionalism” advocated in the seminal work of the Lancet Independent Global Commission on Education of Health Professionals for the 21st Century.<sup>5</sup> Assessments performed within the context of the workplace and that include coworkers and supervisors as assessors have enhanced validity.<sup>28</sup>

Qualitative and mixed assessment methods, including methods from the social sciences, may be well suited for assessing situated, context-linked, participatory competencies. Whitehead and colleagues<sup>29</sup> argue that although standard psychometric methods are valuable and necessary, they “are not sufficient for a competency-oriented assessment environment. New assessment approaches, particularly ones from the social sciences, are required to be able to assess non-Medical Expert (intrinsic) roles that are situated and context-bound.”

Among the assessment approaches these authors<sup>29</sup> suggest are the *realist inquiry* and *ethnographic* methodologies, both of which are designed to assess complex social constructs and take account of context and social locations. Realist inquiry, which is an explanatory model employing range of qualitative and quantitative data collection methods, focuses on recognizing the patterns of how the contexts of interventions lead to

different outcomes<sup>29</sup> (i.e., “what works for whom in what circumstances ... and why”<sup>30</sup>). Ethnographic assessment entails collecting data about social interactions, and its methods include analysis of written artifacts, discussions, and observations to examine behaviors, perceptions, and processes within and between groups and members of groups.<sup>29,31</sup> The ethnographic method, in particular, seems suited to assessing participatory competencies.

Employing these methods—alongside other qualitative, narrative, and workplace-based assessment methods—would provide additional external sources of information that enhance the accuracy and reliability of the HIC trainee’s self-directed assessment of participatory competencies in collectivist settings in LMICs.

### Why “Cultural Competence” Is Insufficient

To prepare students and trainees for their elective work in LMIC “cultures,” HIC global health programs often incorporate coaching and guidance in cultural competence. This concept initially seemed to offer a way of circumventing inconvenient distinctions between individualist and collectivist cultures and their associated approaches to learning and competency. The term *cultural competence* is, however, loaded with assumptions and skewed perceptions.<sup>32–35</sup> Who defines a culture? What delineates that culture? To what extent can outsiders to a culture (like HIC trainees in an LMIC culture) understand its dynamic nuances? This is a complex topic beyond the scope of this article except to argue that (1) teaching cultural competence in itself is insufficient to remedy other shortcomings of competency in global health, and (2) to the extent that cultural competence is taught and implemented, it should be treated as a participatory rather than acquired competency.

Cultures are multifaceted and composed of a variety of dimensions—such as language, religion, education, and socioeconomic class—that “intersect in complex ways in the life experience and identity of any one individual.”<sup>36</sup> Compiled lists of cultural competencies run the risk of being simplistic and making assumptions that verge on stereotyping. Some suggest mitigating

these risks by adopting the more modest goals of “cultural humility” or “cultural awareness.”<sup>37</sup>

Cultural competence courses are mostly conceived as individualist, with cultural competency viewed as a skill that trainees acquire. Such courses are often taught in a static and informational manner, depleted of the contextual internalized values of the specific culture. As Kumagai and Lyson,<sup>32</sup> however, pithily point out, “cultural competency is not an abdominal exam.” Cultural competency cannot be readily acquired and checked off using a knowledge, skills, and attitudes list. Cultures are not static but, rather, are situated in dynamic interactions, and they change with time as a consequence of sociopolitical flux and technological innovations.

Instead of supporting inchoate concepts of cultural competence, I propose that global health education explore more encompassing metaphors and mental models, such as those of sharing.

### Metaphors and Mental Models of Sharing

Holmboe<sup>17</sup> argues that a major reason educators have struggled to translate emerging concepts of competency into meaningful change is the lack of shared mental models. Metaphors and models of sharing such as “shared mind”<sup>38</sup> and “shared learning”<sup>39</sup> serve to bridge the individualist–collectivist divide and its associated cultural and learning dissonances. These models of sharing align with social learning theories, collectivism, and the notion of participatory competencies. Adopting these models should promote inclusion of LMIC health professionals in developing global health competencies as well as the bidirectional sharing of ideas, innovations, and resources between HIC and LMIC health professions education programs.

Epstein and Street<sup>38</sup> advance their metaphor of “shared mind” to promote “interactional care” rather than “transactional care.” Both concepts entail associated approaches to communicating information, to deliberation, and to decision making. In this model, the *transactional* approach to care focuses on information

exchange, negotiation (as a form of deliberation), and individual choice in decision making. The *interactional* approach, on the other hand, incorporates attributes of sharing:

- *shared information* focuses on shared knowledge (e.g., between learners, with patients); specific contexts of illness, health, and learning; and comprehension and meaning rather than just acquisition and quantity of information;
- *shared deliberation* focuses on collaborative cognition and mutual discovery of preferences rather than contractual relationships, negotiation, and quantification of risk; and
- *shared decision making* focuses on relational autonomy and consensus decisions rather than individual autonomy.

This interactional model of care based on sharing is dynamic, not static like the transactional model. As such, it includes many of the attributes of participatory learning that are contextually situated and arise through social group (collectivist) interactions.

The lack of a shared vernacular coupled with linguistic and cultural ambiguities further complicates the debate in the health professions about adapting to the challenges and scope of competency-based education. As Heifetz et al<sup>40</sup> write:

Shared language is important in leading adaptive change. When people begin to use the same words with the same meaning, they communicate more effectively, minimize misunderstandings, and gain the sense of being on the same page, even while grappling with significant differences on the issues.

An important paradigm of sharing in global health education is the community of practice (CoP), which provides a space in which situated and interactional learning can occur. Learning in CoPs is dynamic, shared, and participatory—it is not an individual act or a passive transfer of knowledge from expert to novice.<sup>20,41</sup> The social learning that occurs in CoPs requires active participation and the tolerance of ambiguity of different contexts brought into proximity through the enterprise of sharing.<sup>42</sup> Examples of CoPs include the medical teams in hospitals or, in global health, the

networks of medical schools in Africa, such as MEPI<sup>43</sup> and the Consortium of New Southern African Medical Schools.<sup>44–46</sup>

To encapsulate the concepts of situated, participatory, and interactional learning with regard to competencies, Klass<sup>47</sup> has coined the term “situated competence.” Situated competencies are linked to a specific context and “situated” in the dynamic interactions both between individuals participating and working in that context, and between individuals and the context’s “situational or systems factors.”<sup>47</sup>

The “situated-ness” (context-specificity) of competencies may, however, pose a dilemma to their generalizability to contexts beyond their local constraints. With regard to education research, Regehr<sup>48</sup> distills this dilemma between context-specificity and generalizability as follows:

If generalizable education theories are too weakly generalizable to be of local practical value, and if localized solutions are too strongly embedded in the local context to be of practical value, we must conclude that there may be no generalizable solutions to our collective education problems.

Knowing how to incorporate into our own context(s) the way others interpret a problem is one path toward promoting shared understanding.

Metaphors of sharing thus provide a critical connection between context-specificity and generalizability. With regard to competency, Leung et al<sup>1</sup> have proposed the insightful term “situated shared competence” that takes account of both context-specificity and the need for a transfer of learning to occur through sharing. Shared situated competence provides a model of sharing that “integrates individual and collective factors acknowledging that cognition is to some degree shared across individuals.”<sup>1</sup> Sharing, by being interactional, permits “new ideas and perspectives [to] emerge”<sup>38</sup> in contrast to a static “transfer of learning” from one situation or context to another.

Developing new domains of competency may serve to advance such models of sharing in global health education.

## New Competency Domains in Global Health Education

The ACGME defines six cross-disciplinary core competency domains in medicine as a foundational reference for all specialties.<sup>15</sup> As the health care landscape has rapidly evolved, some educators and researchers have suggested additional domains.<sup>49</sup> Here, I propose three new competency domains in global health education that are rooted in the concepts of collectivism, participatory learning, and sharing: resourceful learning; transprofessionalism and transformative learning; and social justice and health equity.

### Resourceful learning

Ludmerer<sup>50</sup> writes that “the greatest deficiency of medical education throughout the twentieth century ... was the failure to train learners properly for clinical uncertainty.” The resource-constrained health care settings in LMICs are fraught with uncertainties that present trainees in global health programs with what Bjork describes as “desirable difficulties.”<sup>51,52</sup> This term refers to learning conditions that seem to create difficulty but result in “more durable and flexible learning.”<sup>51</sup> Desirable difficulties can motivate the learner to proactively seek out challenging learning tasks<sup>9</sup> that, while making the learner uncomfortable and uncertain, lead to enhanced learning and the ability to adapt such learning to other contexts. Seeking out desirable difficulties, as a component of *resourceful learning*, requires a level of self-motivation, monitoring, and participation that is essential for self-directed assessment seeking.<sup>9</sup>

Englander et al<sup>49</sup> have proposed a competency domain of *personal and professional development* that includes attributes similar to those of resourceful learning, such as the capacity to deal with uncertainty, recognize ambiguity, and practice cognitive flexibility, and the ability to participate in teams and collectives. A competency domain of resourceful learning would serve to develop similar competency attributes in global health settings.

### Transprofessionalism and transformative learning

Models of sharing could also be promoted through a competency

domain of *transprofessionalism and transformative learning*.<sup>5</sup> Physicians and health professionals alone cannot effectively deliver health care in resource-constrained settings in LMICs. Through inclusion of community workers, managers, policy makers and administrators, *transprofessionalism* promotes sharing to improve health system performance.<sup>5</sup> Inclusion of non-health care professionals also permits their participation in the global health trainee's self-directed assessment seeking. This inclusive competency domain is also congruent with collectivism and the development and assessment of participatory competencies.

*Transformative learning* aims to promote transformation and innovation in global health by developing leaders who can act as "change agents."<sup>5</sup> Transformative learning includes a shift away from static approaches to learning, like memorization, toward dynamic, collaborative, and participatory cognitive strategies that lead to more effective decision making and creative adaptation of resources to address local priorities.

### Social justice and health equity

[W]hat might it take to catalyze a truly equal dialogue aimed at shared learning across borders and across historical gradients of inequality?  
—Binagwaho et al<sup>39</sup>

In an interdependent world, a competency domain assessing awareness and apprehension of health equity issues and social justice seems essential for global health education. (The Association of Schools of Public Health's Global Health Competency Model already includes such a domain<sup>21</sup>; see Table 1.) This domain would serve a democratizing function in health professions education and also reinforce the notion that learning should be bidirectional and reciprocal between teacher and learner as well as in partnerships between HICs and LMICs.

HICs have much to learn from both the challenges faced by and the innovations emerging from LMICs, as Nigel Crisp<sup>53</sup> avers in his book *Turning the World Upside Down*. The notion of bidirectional learning between HICs and LMICs also aligns with the core concept of "interdependence" in global health education and the need to dismantle "academic silos" and discourage the "tribalism of the professions."<sup>5</sup>

Binagwaho et al<sup>39</sup> use the language "shared learning in an interconnected world" to connote a bidirectional partnership in learning that is consonant with a global health competency domain of *social justice and health equity*: They propose a model of "shared learning" based on "reciprocity and respect" that promotes "experimentation across contexts" leading to "reverse innovation." In this proposed competency domain, the "shared learning" concept resonates with the metaphor of "shared mind"<sup>38</sup> to promote the trainee's understanding of health inequalities and historical legacies of colonialism, and to promote bidirectional learning and "reciprocal relationships."<sup>54</sup> A global health competency domain of social justice and health equity is thus firmly rooted in the concepts of participation and sharing.

### Conclusions

Global health education programs in HICs have devised competency models that take insufficient account of specific contexts in resource-constrained settings in LMICs. These models are largely based on individualist approaches to learning, in which learning is viewed and assessed as an acquired attribute, and they generally fail to recognize the relative collectivism of host LMICs in which learning has a substantial participatory component. Classifying competencies as acquired or participatory and assessing each type using appropriate methodologies (such as self-directed assessment seeking for participatory competencies) may provide a valid approach to competency-based education, and a less dissonant, more inclusive, approach to global health education. This classificatory approach also suggests adopting fresh mental models of sharing and developing new global health competency domains that incorporate resourceful learning, transprofessionalism and transformative learning, and health equity and social justice. By taking account of specific contexts, the classification of competencies as acquired or participatory may apply more broadly to education in the other health professions.

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