

How OER can support teacher collaborative learning to enact equitable teaching practices

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Abstract

Purpose – Many K-12 teaching practices unwittingly reproduce social privileges. To transform their teaching and provide more equitable learning opportunities for students from minoritized communities, teachers need professional learning experiences that are collaborative and “close-to-practice” (Ermeling and Gallimore, 2014). This study aims to propose an approach to open educational resources (OER) to support teacher learning to enact equitable teaching practices.

Design/methodology/approach – Based on an integrative review of research on OER, equitable teaching and teacher collaboration, the authors propose the “Open Guidebook Approach” (OGA) to realize and sustain enactment of equitable teaching. OGA materials are practical, available and adaptable for teachers to learn together to transform their practice incrementally and continually within small, job-alike teams. The authors illustrate OGA with *Making Meaning* (https://edtechbooks.org/making_meaning), which offers information on equitable teaching through graphically illustrated scenarios and guides teachers to plan lessons together, observe each other, debrief and analyze implementation and reflect on and revise lessons based on peer observation and student learning goals.

Findings – Teachers using *Making Meaning* recommend ways to enhance its adaptability and practicality, e.g. by providing repositories of lesson ideas for and by teachers, using classroom videos in addition to illustrated scenarios and emphasizing teacher dispositions underlying equitable teaching practices.

Originality/value – OGA provides a promising way for educators, designers and researchers to work arm-in-arm to transform schooling for teachers and students. Further research is needed to identify structural conditions requisite for OGA use and how OGA materials can optimize teacher collaboration to enact meaningful and effective opportunities for minoritized students to participate and learn in classrooms.

Keywords Equity, Pedagogy, Open educational resources, Teacher learning, Teacher collaboration, Continuous improvement in education, Adaptive technologies

Paper type Conceptual paper



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Despite educators' good intentions, classroom interactions and activities in most schools continue to be reproductive rather than transformative (Collins, 2009; Freire and Macedo, 1987). The ways we teach in K-12 settings tend to privilege white, upper-middle-class ways of being, speaking, motivating, thinking and feeling (Delpit, 2006; McGee Banks and Banks, 1995; Paris and Alim, 2017; Skerrett, 2020). Systemic change to enact equitable teaching practices whereby minoritized [1] students are afforded effective and meaningful opportunities to participate in the ideas and practices of math, history, science and language arts is our shared responsibility: teachers, designers, school and district administrators, researchers and policymakers.

The critical challenge concerns sustaining implementation at scale (Lee, 2014; Neri *et al.*, 2019). From nearly three decades of research, we know what equity in teaching and learning in classrooms looks like. It is connected to what minoritized students know, do and identify with outside of school (Moll *et al.*, 1992). Equitable teaching encourages children to express their views regularly (Adair *et al.*, 2018; Reeve, 2009), to work with classmates on meaningful academic problems (Webb and Farivar, 1994) and to examine issues of fairness, justice and bias in society (Ladson-Billings, 2014; McGee Banks and Banks, 1995). More recent studies point to features of teacher collaboration to make continuous improvement to classroom teaching and learning a reality (Gallimore *et al.*, 2009; Horn *et al.*, 2017; Lefstein *et al.*, 2020; Vangrieken *et al.*, 2015). Moreover, expansive applications of open educational resources (OER) afford systemic change for equity (Bali *et al.*, 2020; Kimmons, 2016; Lambert and Czerniewicz, 2020; Veletsianos, 2021) by providing teachers with accessible content, without cost, in ways that resonate with local priorities and circumstances (Wiley *et al.*, 2020).

We submit that thoughtfully fitting these three pieces together – i.e. equitable pedagogy, OER and teacher collaboration – can help to address the timely challenge of sustaining implementation of equitable teaching at scale. We provide an integrative review of research to propose a new approach to realize and to sustain systemic change for equity in K-12 teaching and learning, which we call the “open guidebook approach” (OGA). We define OGA as OER-based professional learning materials (e.g. team inquiry protocols, peer observation systems, rubrics for scoring student work samples, case studies, lesson videos, lesson templates, videos of teacher meetings, teacher learning progressions) that are practical, available and adaptable (Jensen and Kimmons, 2022). Open guidebooks support K-12 teachers' work to improve their practice continuously through planning and preparing, debriefing and examining and reflecting on and revising lessons together in job-alike [2] teams. We illustrate OGA for equitable teaching and learning in K-12 schools with a resource that we call *Making Meaning in My Classroom* [3].

Figure 1 provides an essential theory of change based on the OGA. We submit that open guidebooks sustain implementation at scale by engaging teachers within job-alike teams to use practices with each other that resemble those they seek to enact in their classrooms (Saunders *et al.*, 1992). The OGA transforms teaching and learning, e.g. by helping teachers in school-based teams address common instructional aims (Kennedy, 2016), anchor decisions on evidence from practice (Sherin and Han, 2004) and provide one another with constructive criticism (Sutton and Shouse, 2018), to continually improve together. We share feedback from teachers currently using *Making Meaning* and highlight two areas where further research on the OGA is needed.

We seek in this article to contribute to the literature in three ways. First, to provide a viable option (for further development and study) to address pressing implementation challenges

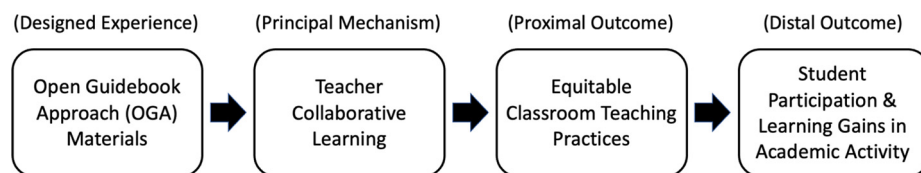


Figure 1. OGA: essential theory of change to transform teaching

regarding equity pedagogy (Neri *et al.*, 2019). Second, to offer a vehicle for scaling promising teacher collaboration practices (Gallimore *et al.*, 2009). And finally, to encourage OER scholars more broadly to engage the burgeoning field of teacher learning (Russ *et al.*, 2016).

Enacting equitable teaching practices

Addressing the need for excellence and equity in US public education, Diane Ravitch argued that “you can’t have one without the other” (Mondale and Patton, 2001, p. 212). Building on seminal work in culturally relevant/responsive/sustaining and equity pedagogies (Delpit, 2006; Freire and Macedo, 1987; Gay, 2010; Ladson-Billings, 2014; Lee, 2014; McGee Banks and Banks, 1995; López, 2017; Paris and Alim, 2017; Skerrett, 2020), we define equity in teaching as effective and meaningful assistance of student learning. By meaningful, we mean:

- *connected* to minoritized students’ everyday identities and practices;
- *agentive* in terms of providing opportunities to express ideas or lead an activity;
- *collaborative* in terms of promoting productive work with student peers; and
- *just* in terms of discussing matters of fairness and bias in society and in students’ lives (Jensen, 2021; Jensen *et al.*, 2018, 2020).

The principal object of equity in teaching is for every student to participate in the ideas and practices of academic activity (Lee, 2014). Meaningful and effective aspects of teaching are interrelated yet distinct (Jensen *et al.*, 2018). “Effective” aspects concern the quality of organization and affective and instructional support in classroom lessons (Pianta and Hamre, 2009), whereas “meaningful” aspects concern the extent to which classroom activities and interactions resonate with what minoritized children and youth know, do and identify with outside of school (Jensen *et al.*, 2018). Effective aspects are generic in terms of universal significance across instructional content and social contexts of teaching (Hill and Grossman, 2013). They concern, for example, the extent to which the teacher queries students to explain their thinking (Goldenberg, 1993), communicates warmth and respect (Roorda *et al.*, 2011) and uses a variety of instructional modalities to sustain student interest (Hamre *et al.*, 2013).

Effective aspects alone are insufficient for equity in classrooms because they fail to address social and cultural contexts of teaching (Skerrett, 2020). Without addressing context, the content and form of teaching by default privilege white, upper-middle class ways of being, speaking, motivating, thinking and feeling (Baker-Bell, 2020; Jensen, 2021; Ladson-Billings, 2014; McGee Banks and Banks, 1995; Milner, 2020; Paris and Alim, 2017).

Naturally, teachers teach the way they were taught in a system designed for and by Anglo Americans (Rogoff, 2003, pp. 227–235). Traditional US classrooms value individualism, e.g. through practices as commonplace as hand raising to participate whereby students vie for teacher attention and praise (McInerney *et al.*, 1997). Competitive interactions such as these marginalize students socialized outside of school to learn with and support peers rather than compete with them (Jensen, 2021). Individualism is not a cultural universal (Guthrie and Coddington, 2009; Ryan and Deci, 2000); classroom interactions that compare students or use competition to motivate their participation can be reproductive rather than transformative (Rogoff, 2003).

Framing sociocultural aspects

Thus, meaningful (or sociocultural) aspects of teaching are vital to transform student learning opportunities. Reese *et al.* (2014) illustrate how meaningful aspects of teaching instantiate effectiveness in early elementary classrooms in a rural agricultural community in

California's Central Valley. They found teachers communicated warmth and positive affect, an effective/generic feature of teaching (Roorda *et al.*, 2011), by using children's native language (Spanish). Teachers in highly supportive classrooms used Spanish more than six times as often as those in less supportive classrooms to provide comfort, assistance and to address learning challenges. Teachers communicated emotional support using familiar, endearing terms such as *mi'jo*, *mi corazón* or *mi vida* to refer to children.

Reviewing conceptual and empirical literature, Jensen *et al.* (2018, 2020) identify three sociocultural aspects of teaching: life applications, self in group and agency. The first domain addresses how the content of classroom lessons *connect* to the routines, practices, relationships, values, interests, etc. of students' everyday lives (Moll *et al.*, 1992). Life applications include how teachers and students use everyday language to enhance learning and social relationships (Martinez and Mejia, 2020) and examine issues of fairness, bias and social justice at school and in society (Baker-Bell, 2020; Ladson-Billings, 2014).

The other two sociocultural aspects address the extent to which the form of classroom interactions is *communal*. Self in group refers to the ways teaching socializes students to work and identify with peers to organize learning and motivate participation in classroom activity (Paradise, 1996; Slavin, 2010; Webb and Farivar, 1994). Agency concerns how student choice and freedom are managed in the classroom – the extent to which every student has opportunities to assume responsibility, ask their own questions, lead an activity and internalize high expectations (Adair *et al.*, 2018; Reeve, 2009). Thus, communal teaching both fosters interdependence among students and supports personal autonomy.

Jensen *et al.* (2018, 2020) developed and validated a reliable observation system to capture nine dimensions of connected and communal teaching: language use, content connections, equity discussions, competition, peer collaboration, social organization, student autonomy, role flexibility and equitable expectations. Each dimension includes four to five observation indicators – what the teacher and students do in classrooms, as well as rubrics with guidelines for note-taking, scoring and interpreting. The purpose of this measure, the Classroom Assessment of Sociocultural Interactions (CASI) — the conceptual basis for our open guidebook, *Making Meaning* – is:

- to build a stronger knowledge-base on the effects of equitable teaching on minoritized student learning; and
- to support teacher learning with feedback from their own teaching to improve equitable practice over time.

Sustaining implementation

We know more about the effects of equitable teaching than how to sustain its implementation (Neri *et al.*, 2019). Equitable teaching has been shown to positively affect participation of minoritized students in academic activity (Au and Mason, 1981; Goldenberg, 2008), and some evidence suggests equitable teaching yields academic learning gains for children and youth from minoritized communities (Cabrera *et al.*, 2014; Dee and Penner, 2017). Using students' non-English native language for instruction, e.g. demonstrates a consistent, positive effect on literacy outcomes for language – minoritized students (Cheung and Slavin, 2012). Peer collaboration (Calderón *et al.*, 1998; Sáenz *et al.*, 2005) and autonomy-supportive discussions (Matsumura and Garnier, 2015; Portés *et al.*, 2018) have also demonstrated increases in minoritized student performance.

A critical, unresolved challenge is sustaining implementation of equitable teaching practice – the principal reason for designing *Making Meaning*. This challenge largely concerns providing teachers supports to learn in and from their practice (Gallimore *et al.*, 2009) rather than

presuming teachers somehow refuse or resist change (Neri *et al.*, 2019). Supports for teachers are needed to sustain implementation because equitable practices so often diverge from the ways teachers experience classrooms. For example, though positioning oneself as a learner with students can be a powerful move teachers make to foster meaningful student participation, it is rare in US classrooms because it flies in the face of traditional teaching (Reeve, 2009), especially in schools that rely heavily on direct instruction.

Collaborative and close-to-practice supports for teacher learning

Supports to implement equitable teaching address organizational structures as well as procedures in teaching and teacher learning. Support materials include lesson plan templates, frameworks of teaching, inquiry guides within small job-alike teams of teachers, peer observations, exemplary video segments, illustrative case studies and so on. The most recent evidence in teacher education suggests that effective structures, procedures and materials for continuous or ongoing improvements to teaching and learning are collaborative and “close-to-practice” (Darling-Hammond *et al.*, 2017; Ermeling and Gallimore, 2014; Gallimore *et al.*, 2009; Lefstein *et al.*, 2020; Ronfeldt *et al.*, 2015; Saunders *et al.*, 2009; Vangrieken *et al.*, 2015; Vescio *et al.*, 2008). These findings underlie our open guideline approach and are embedded into *Making Meaning*.

Collaborative supports

Teacher work in small job-alike teams allows for the sharing of insights and analysis of instructional challenges within shared social contexts (Borko, 2004; Goddard *et al.*, 2007). Teacher collaboration to plan, study and revise lessons builds trust within a professional community (Little, 2003). It leads to instructional improvement by distributing decision authority about what and how to teach among teachers rather than concentrated with the school principal (Vangrieken *et al.*, 2015). Deep collaboration is enabled by a series of organizational structures or “setting features for teacher learning and inquiry” (Gallimore, 2009, p. 540). They include, for example:

- focused instructional aims (Brouwer *et al.*, 2012; Garet *et al.*, 2001; Vescio, *et al.*, 2008);
- peer facilitation (Andrews-Larson *et al.*, 2017; Gallimore *et al.*, 2009); and
- protocols to guide teacher inquiry (Saunders *et al.*, 2009; Segal *et al.*, 2018).

These setting features help to extend the study of teaching across time and people to develop capacity for continuous improvement (Bryk, 2020). Common instructional aims focused on specific learning goals enhance productivity of collaborative meetings (Vescio, *et al.*, 2008). Peer facilitation generates trust and community among teachers (Bryk and Schneider, 2002), and inquiry protocols afford insights teachers would not necessarily arrive at on their own (Levine and Marcus, 2010).

In terms of procedures or the process of consequential teacher collaboration, Horn *et al.* (2017) emphasize the need “to examine the interactional processes that shape meaning making in teachers’ meetings” (Horn *et al.*, 2017, pp. 43-44). These processes include, e.g. how teachers negotiate decisions and coordinate contributions among team members (Butler and Schnellert, 2012), the expression shared ownership of instructional aims (Vangrieken *et al.*, 2015) or how teachers wonder together (Nelson, 2009) or communicate an “inquiry stance” (Cochran-Smith and Lytle, 1999) by asking critical questions.

There is a growing body of research on teacher discourse during collaborative meetings to examine the process of continuous improvement in teaching and learning (Lefstein *et al.*, 2020).

Features of teacher talk associated with desired changes to classroom practice include a shared focus on specific instructional challenges (Kennedy, 2016), collective reasoning (Horn *et al.*, 2017), anchor instructional decisions on evidence from practice (Sherin and Han, 2004), analysis of multiple perspectives (Grossman *et al.*, 2001), generative stances or positionalities among teachers (Cochran-Smith and Lytle, 1999) and combining critical feedback for each other with genuine support and solidarity (Lefstein *et al.*, 2020; Sutton and Shouse, 2019).

Close-to-practice

In many ways, improvement centers on the type of information teachers use from their practice to change. Typically, “representations of practice” (Lefstein *et al.*, 2020, p. 363) used in teacher inquiry meetings consist of student work because it is easy to gather (Saunders *et al.*, 2009). Though student work is valuable to represent student thinking, it has significant limitations to realize and sustain equitable practice. Most fundamentally, it does not provide direct information on what teachers actually do with students (Sherin and Han, 2004).

Classroom observations are particularly useful to understand and improve teaching because they frame and provide a shared conceptual language for teaching, can be used repeatedly to track change and imply a set of goals for improvement (Bell *et al.*, 2019).

Organizing features of equitable teaching into robust indicators such as formative peer observation rubrics, such as those in *Making Meaning*, builds common language among teachers to talk in depth together about their classroom practice (Jensen *et al.*, 2021). It affords collective capacity for teachers to discern issues and concerns arising from their practice. Peer observation rubrics help teachers identify common dilemmas in their teaching, build understanding of nuanced concepts in classroom talk and assist in talking about these nuances in professional learning settings (Andrews-Larson *et al.*, 2017; Little and Curry, 2009).

Observation rubrics, field notes and scores from peer teachers, used for formative purposes only, enable generative stances of teachers toward students from minoritized communities (Cochran-Smith and Lytle, 1999) as well as toward one another’s practice (Horn *et al.*, 2017). Basing decisions in planning, preparing and revising lessons on evidence builds institutional capacity for improvement as well, through shared understandings and interpretations of their practice (Gallimore *et al.*, 2009; Vedder-Weiss *et al.*, 2019). Inquiry protocols organized into stages of planning/preparing, implementing/observing, examining/debriefing and reflecting/revising help teachers use this information constructively (Little and Curry, 2009; Saunders *et al.*, 2009; Segal *et al.*, 2018; Sutton and Shouse, 2018).

The open guidebook approach

We propose integrating supports for collaborative, close-to-practice teacher learning into OER to sustain implementation of equitable teaching at scale. We refer to this integration as the OGA – to help teachers through professional learning materials that are practical, available and adaptable. These three values – availability, practicality and adaptability – build on OER uses for continuous improvement (Wiley *et al.*, 2020) and social justice (Bali *et al.*, 2020; Lambert and Czerniewicz, 2020; Veletsianos, 2021). We submit that OGA materials enable teacher collaborative learning to transform their teaching incrementally and continually, thereby enhancing opportunities for minoritized students to participate meaningfully in learning activities in K-12 classroom settings (Figure 1).

Availability

First is the concern about how OGA resources such as scenarios, frameworks of teaching, observation rubrics, team inquiry protocols, etc. are accessible to and usable for all teachers. OGA materials remove at least three access barriers: cost, legal and usability barriers (Jensen and Kimmons, 2022). Regarding cost, teachers need constant, free materials to sustain changes to their practice. There are no fees, paywalls or logins to avail open guidebooks, and no restrictions in terms of the number of times users access materials. We see OGA as a fully democratized, public good. There are no costs to users associated with creating, hosting or distributing materials. OGA removes legal barriers by circumventing copyright rules through open education license – to allow anyone to make copies and to print and share without having to seek permission of any kind (Wiley *et al.*, 2020). Open guidebook materials are “free” in the sense of “no cost” as well as in terms of “freedom” to retain, revise, remix, reuse, or redistribute these resources (Wiley, 2022). Finally, in terms of usability, OGA materials are designed iteratively with and for teachers so that technical aspects such as navigability and flow are straightforward and intuitive. The OGA uses mobile-first HTML for universal availability across platforms, devices and streamlines. They do not use specialized technologies such as OS and are compatible with as many device types as possible.

Practicality

Teachers want professional learning materials to be germane to their own practice, student learning needs, local priorities and procedures used to plan, prepare, analyze and revise lesson activities (Janssen *et al.*, 2015). Doyle and Ponder (1977) were the first to use the term “practicality” to characterize materials intended to improve teaching and learning. Working with educators in their iterative design, OGA materials support collaborative, close-to-practice teacher learning to sustain equitable teaching to the extent they are recognizable within, relevant to and feasible with their teacher routines. This has been vital for teachers to take up *Making Meaning*. Recognizability concerns the extent to which OGA materials incorporate existing school and classroom procedures. Relevance addresses the extent to which OGA materials “fit the circumstances in which teachers work” (Janssen *et al.*, 2015, p. 181), feasibility concerns “the time, knowledge, and resources [. . .] required to adopt the innovation compared to the perceived benefits the practice would bring” (p. 181). Rather than profitability as a marker for resource quality, the typical standard for many publishing houses, OGA designers work with educators to determine what constitutes high-quality resources to achieve desired aims (Dinevski, 2008). This squares with the idea that “quality cannot exist without an intended context, and the quality of [open guidebooks], as with any educational resource, is connected with the contexts in which they will be used” (Kimmons, 2015, p. 43).

Adaptability

Finally, open guidebooks should be adaptable for a wide variety of school, community and classroom contexts (e.g. cultural, historical, linguistic, political, racial/ethnic, socioeconomic) in which teachers work. This is possible as OGA materials are licensed and shared to allow local changes. Open guidebooks can be downloaded, copied, edited, redesigned to support the exercise of teacher agency to revise concepts, scenarios, inquiry protocols, etc. to sustain changes to instruction in locally meaningful ways. Our preferred license for this is the Creative Commons Attribution 4.0 International license (CC BY), because of its many freedoms and few restrictions, but other types of Creative Commons or open licenses could also be used if they allow for remixing and the creation of derivative works. Moreover,

adaptability is enabled by releasing OGA materials through a technology platform that is intentionally designed to facilitate remixing all or part of a guidebook's content (Jensen and Kimmons, 2022). Finally, we recommend modular design in OGA with a chapter format and a reasonable level of granularity (Johnson and Hall, 2007) to allow teachers to select, omit or edit content. Adaptability communicates to teachers that they are co-designers (to the extent they wish to be) – trusted to direct their own professional learning together (Bryk, 2020; Little, 2003).

Making Meaning in My Classroom

We illustrate our arguments with an ongoing open guidebook with elementary teachers in Title 1 public schools: *Making Meaning in My Classroom: Fostering Equitable Learning for All in My Elementary Classroom* (Jensen and Kimmons, 2021). This OER is intended to support teachers learning together in job-alike teams to realize and sustain equitable practices centered on peer observation either live or through video. Indicators of equitable teaching in each chapter come verbatim from the CASI measure on *connected* and *communal* interactions, developed and validated over a series of studies across school contexts (Jensen *et al.*, 2014, 2018, 2020).

Making Meaning is organized into four parts: an introduction, three chapters on connected aspects of teaching (life applications), three chapters on interdependent teaching (self in group) and three chapters on supporting student choice, expression and participation (agency). Working with teachers, teacher candidates and graphic artists, currently, we have a complete introduction and three chapters on supporting teachers to learn to enact connected classroom practices. The introduction presents an overview of “equitable teaching” and an orientation to chapter structure. To increase “practicality,” each chapter situates a CASI dimension in the life of a classroom and experiences of teachers and students. Teacher learning goals are specified, and a brief review of germane research is provided.

Classroom observation indicators associated with each CASI dimension are presented with mini scenarios of classroom lessons – a content learning standard, description of classroom context and brief illustrations of what practices related to the indicator actually look like along the CASI continuum, from inequitable to equitable. After presenting each indicator separately (four to five per chapter), a more detailed scenario is provided for teacher users to hone their understanding of all dimension indicators together – teaching concepts and reliable use of observation rubrics before teachers use them to plan, implement and analyze their own lessons together. These scenarios are associated with graphic illustrations of classroom interactions with panels, narrations and dialogue balloons (example in Figure 2). The same scenario is presented and examined three times in each chapter to show how classroom interactions change from inequitable to somewhat equitable, and from somewhat equitable to equitable.

Finally, each chapter concludes with an inquiry protocol – prompts to guide teachers in small teams to use *Making Meaning* concepts and observation rubrics, fieldnotes and scores to plan, implement, examine and revise their own lessons. These protocols support productive discussions among teachers and anchor their decisions about their lessons (Little and Curry, 2009; Saunders *et al.*, 2009; Segal *et al.*, 2018). Protocols also support teacher collaborative learning by keeping instructional aims focused (Brouwer *et al.*, 2012; Garet *et al.*, 2001) through peer-facilitated deliberation (Andrews-Larson *et al.*, 2017; Gallimore *et al.*, 2009).

In terms of availability, our guidebook is free in every sense (Wiley, 2022), using mobile-first platforms EdTechBooks.org and EquityPress.org with multiple format

Version 3: Well-Connected



Figure 2. Graphic illustration of well-connected interactions in Chapter 3 of *Making Meaning*

options (PDF, MS Doc) for users to download. Chapters include “learning checks” throughout for teacher users to monitor their understanding, as well as for us (designers) to gather data to revise sections with lower relative comprehension. Working with teachers to design, appraise and revise features of *Making Meaning* has been especially critical for adaptability and practicality. Recently, teachers across three elementary schools using *Making Meaning* suggested adding three features to improve adaptability:

- (1) tailoring practice advice for teachers based on current levels of understanding;
- (2) providing a repository of lesson ideas associated with each dimensions, authored for and by teachers; and
- (3) providing more scaffolding for teachers teams with less experience collaborating together.

Currently, we are in the process of making these additions, even as we write additional chapters. To increase practicality – recognizability of teaching concepts and relevance and feasibility of procedures – these same teachers suggest:

- using videos of real classrooms in addition to graphic illustrations;
- emphasizing the role of teacher dispositions to enact equitable practices; and
- suggesting ways of getting to know their students outside of school to sustain meaningful connections.

Discussion and conclusion

One of the lessons from teacher professional development in recent years is that learning to enact desirable-yet-knotty teaching practices is more caught than taught (Jensen *et al.*, 2021). Being told what to do or even seeing other “expert teachers” in action is not enough. Teachers need firsthand, ongoing experiences with the practices they seek to enact (Lieberman and Miller, 2014). They need regular opportunities – or “stable settings” (Gallimore *et al.*, 2009, p. 549) – to plan, study and revise their practices together. Teacher learning experiences that are collaborative, agentic, dialogic, connected and socially just afford classroom activities and interactions for their children and youth that are the same. Equity begets equity.

Thus, the question for designers, researchers and policymakers is how to provide experiences teachers need to realize and sustain equitable teaching practices. We have argued that support materials to transform teaching should build capacity for teachers to work together in job-alike teams to continuously improve their practice through focused instructional aims, peer facilitation and protocols to guide teacher inquiry. Further, we make the case that peer observation based on research-vetted indicators of equitable teaching practice center collaborative, close-to-practice teacher learning (Jensen *et al.*, 2021).

We do not suggest *Making Meaning* is the ultimate resource for all teachers in every setting who seek to enact equitable practice. Rather, we use it to illustrate our arguments for open guidebooks to support teacher collaborative learning to sustain equitable practice. Our hope is that OGA will orient the development and appraisal of many OERs across school contexts for a variety of instructional purposes, applying the values of availability, adaptability and practicality. The challenge of implementation at scale is tremendous and requires thoughtful design partnerships addressing myriad instructional dilemmas and curricular challenges.

Three suggestions will help us move forward. First, design partnerships should be truly mutualistic (Goldman *et al.*, 2022). Collaborating researchers and designers build knowledge and products, respectively, whereas collaborating teachers use and revise open guidebooks to address instructional challenges that they care about. Second, learning together in the iterative development of open guidebooks is more important than scaling quickly. Learning over scaling is especially important given we still know relatively little from extant research about teacher collaborative learning (Horn *et al.*, 2017; Lefstein *et al.*, 2020). Specific to OGA, we need more empirical research about structural conditions (e.g. distributed leadership, curricular coherence, scheduled peer observation) requisite for effective OGA use and how

OGA materials can optimize teacher collaboration (e.g. peer facilitation, shared pedagogical reasoning, generative orientations, combining support with critique) to enact meaningful and effective opportunities for minoritized students to participate and learn in classrooms (Figure 1). Finally, equitable teaching concepts on which open guidebooks are based should manage tensions between what is known from scholarship on socially just education, on the one hand, with what educators prioritize in their practice, on the other (Lefstein and Snell, 2011). Managing (rather than avoiding or resolving) dilemmas like these is conducive to improving teaching and teacher learning (Lampert, 2001).

Notes

1. We use “minoritized” rather than “minority” to emphasize that even when part of a numerical majority in schools, many students of color – Native Americans, Latinxs, African Americans, Pacific Islanders and so on – are underprivileged due to generations of systemic exclusion. Race and ethnicity, of course, interact with other dimensions of exclusion, including social class, immigrant status, language use, etc.
2. “Job-alike” refers to grade-level teams in elementary schools or content-area teams in secondary schools. Recent research suggests collaboration is more effective when small teams (i.e. three to six members) are organized by teachers who teach similar or identical content to similar groups of students within the same school setting (Andrews-Larson *et al.*, 2017; Gallimore *et al.*, 2009; Goddard *et al.*, 2007; Vangrieken *et al.*, 2015; Vescio *et al.*, 2008).
3. Available online at https://edtechbooks.org/making_meaning (Jensen and Kimmons, 2021).

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