Moving Beyond Dropbox: Designing Powerfully Shareable Curriculum Materials

We teachers are notorious hoarders of potential curriculum materials, and with good reason. Teaching is hard, particularly the first time—whether the first time in the classroom, teaching a course, or trying a new instructional approach. We are eager to ease others' burden by sharing our hard-earned successes through our classroom artifacts and to learn from others via theirs. Consulting others' curricula is a strategy to increase efficiency in our planning and to accelerate our own growth as practitioners. But is a folder of shared classroom handouts enough to fulfill this promise?

At an alumni panel during my teacher preparation program, a graduate offered the following advice: *Ask every teacher you know for their course materials. Take anything that others share. You never know when something—a handout, an*

activity, an assessment—will come in handy.

My first year teaching high school, I planned to rely on this advice. I had been hired to teach Advanced Placement Environmental Science, a course outside my expertise, and I would need to build my own content knowledge as I went along. I was grateful when a fellow teacher offered her course Dropbox folder—thank goodness I wouldn't have to reinvent the wheel! I expected this would reduce the time I spent designing materials, and then I could spend more time learning and preparing to teach this new content.

However, preparing lessons continued to consume most of my time. The Dropbox wasn't enough. Between this folder and Google searches, I seemed to spend more time sifting through others' documents than preparing for deliberate instruction. Even though I had a full year of another teacher's handouts, I realized that I was missing critical information.

Often, what we plan to do with classroom materials is stored in our minds, not in the materials themselves. For each resource, I had to reverse-engineer "hidden teacher knowledge" implicit in the design: purpose, rationale, assumed instructional moves, background content knowledge, anticipated student struggles, and connection to the broader learning sequence. I craved insight into my colleague's choices and use of these materials in order to make them work in my classroom. Sometimes I could pick her brain over the phone about her units, and these conversations were enlightening. However, when this wasn't possible, my reverse-engineering seemed to take more time than it saved. After a few weeks, I stopped using her Dropbox as a starting point. However shaky I felt with the content, designing materials from scratch just seemed easier.

Shared curricula can provide useful foundations for course development, as well as tools to support teacher inquiry and growth. Unfortunately, curriculum materials are not often designed with these tasks in mind. This leads to missed opportunities to fully leverage strong materials as tools for both student and teacher learning. What could it look like for curriculum materials to be designed to more powerfully capitalize on these opportunities?

In my second year, teachers of the same course began meeting to plan and share

instructional materials. The struggles of my first year motivated me to develop stronger curriculum supports to offer new members of my course team. I drew from my rocky start to build teacher resources that accompanied the course curriculum, such as teacher-facing “project overviews,” guidance for lab prep, and framing themes that spanned the year. These were designed to help others quickly orient to each learning sequence, reveal choices made during development, and embed insights and adaptations gleaned from our classrooms. Our weekly meetings also provided a forum to uncover “hidden teacher knowledge” in our materials and share how we were adapting the curriculum for our own classrooms. The goal was not to prescribe one way of teaching but to unpack the existing curriculum as a strong starting point for planning. Compared to my first year teaching the course, these supports seemed to leave us feeling better oriented— new teachers to the course especially.

Recently, I moved into a full-time curriculum developer role, where I curate project-based learning materials utilized by teachers within and outside my organization. These materials include curricula developed by other teachers in their classrooms, as well as novel materials for new courses. Many of the teachers working with our materials design their own curricula, but they look to our curated materials for strong models of an instructional method they are working to incorporate. In my role, I draw on my experience as a teacher leader to make the curriculum easier to make sense of, use, adapt, and learn from. As with the resources I shared on my course team, the goal isn’t to direct other teachers in how the materials must be used, but to provide insight into design choices and instructional experiences underlying the curricula. Ultimately, I want our curricula to help teachers make decisions as they interpret and adapt the materials—or design new projects of their own.

There is deep power in teachers sharing the rationales and instructional insights behind the curriculum materials they use in their classrooms. However, when real-time conversation is not available, some of that power can be embedded into the materials themselves. I think of my role as capturing insights about a curriculum like those that teachers share with one another on collaborative

course teams, and then making these available to a broader community. In this way, shared curriculum materials can serve as an asynchronous dialogue between educators as they interact with these classroom artifacts.

Opinionated curricula recognize that teachers exert power as designers whenever they select, implement, and adapt materials—and offer rationales about design choices in order to enable that work.

It is rewarding when teachers report that materials I curate have been valuable to their course design and instruction, as well as when teachers suggest adaptations, improvements, and insights to inform further refinements. As my role as an educator evolves, I keep returning to the following questions: *How is developing shareable curriculum materials different than designing materials solely for one's own classroom? Beyond reflecting strong pedagogy, how can shared curriculum materials be designed to powerfully support teachers who draw from them?*

Although central to my work as a curriculum developer, these questions are also relevant to other teacher leaders. Teacher leaders occupy a variety of formal and informal roles—course team member, department head, mentor teacher, instructional coach, professional development facilitator, peer thinking partner—which can involve supporting others by sharing curriculum. Sometimes, simply sharing our "raw" classroom materials is enough (or all we have time for). However, there are opportunities to grow as teacher leaders in how we curate our own curricula for others. As we move beyond a handoff of digital files, we can more powerfully leverage curricula as tools for supporting other teachers.

As I have grown as a curriculum designer, three principles have come to guide my thinking about designing powerfully shareable curriculum materials.

Powerfully shareable curriculum materials are coherent

How can curriculum materials more powerfully support teachers in planning

instruction? Often, sharing curriculum materials is reduced to passing on a student-facing document for an activity, resource, or assessment of a given topic. However, these objects don't exist in a curricular vacuum—we design and select materials to fit within a broader learning sequence. Without revealing the intended coherence, we miss an opportunity to support deliberate instruction. Rather than leave peers to reverse-engineer organization and sequencing decisions, powerfully shareable curriculum materials foreground choices about coherence. Making these assumptions and relationships, which form the architecture of the learning sequence, transparent can help others leverage these connections in their own classroom. It can also enable teachers to quickly determine whether the curriculum materials match their classroom contexts and to make productive adjustments as needed.

Questions to ask when designing shareable curricula:

> At the end of a learning sequence, what should students understand and be able to do?
> How does each component of the learning sequence support this central focus?
> How is the overall learning sequence organized? How might instructional moves or framing reinforce this organization?
> How are choices about the architecture of the learning sequence made transparent?

This might look like:

> A concise chart visualizing the main activities within the overall learning sequence, noting key choices about sequencing
> A brief description of the summative assessment and a table that quickly reflects how each component in the learning sequence builds towards that endpoint
> A bullet-pointed list at the top of an activity document that highlights the purpose and key outcomes for that activity as part of the overall learning sequence

Powerfully shareable curriculum materials are opinionated

How can curriculum materials more powerfully support teachers in adapting them? For every lab, video clip, or reading I've embedded into a learning sequence, there are several alternate versions I've considered. Why not just share the whole folder of possibilities? I've noticed an initial tendency (in others' work and my own) to provide a smörgåsbord of options with the intention of preserving teacher agency. Although the intention is valid, this approach can be counterproductive.

Any well-designed learning sequence is *opinionated*: the designer necessarily takes a position on the focus of the curriculum, and the activities, sequencing, and instructional moves are selected in alignment to these. In other words, the curriculum is *designed for* specific aims. No lesson, unit, or project can be good for every use—and curricula that try to position themselves as such mistake weak coherence for adaptability. Unnecessary choices dilute focus and fail to provide a clear vision for how the materials might be used productively, which ultimately makes adaptation more difficult.

Curriculum materials can better support teachers in making adjustments, not by *avoiding* designer decisions, but by being explicit about them by presenting a strong model of how the curriculum *could* look as the foundation for others' adjustments. This does not mean offering alternatives is always bad, but that we should only do so with clear purpose.

Opinionated curriculum materials do not displace a teacher's agency in establishing the priorities for instruction within their classroom. Rather, opinionated curricula recognize that teachers exert power as designers whenever they select, implement, and adapt materials—and offer rationales about design choices in order to enable that work. These rationales should speak to teachers as fellow designers, offering justifications for the original design as resources to inform deliberate adjustments.

In contrast, curriculum materials that lack rationales and provide empty choices are harder to implement, adapt, or use as a model for new design. When I get curriculum questions like *"Which activities are necessary and which are optional? Why would I pick one of these options over the other? Why were these materials designed this way?"* I can tell there's room for the materials to be more explicitly opinionated.

Questions to ask when designing shareable curricula:

> What priorities drive the design of these materials? Where might another teacher want to know more about the design thought process in order to understand or adapt these materials?
>
> If teachers are presented with necessary choices within the materials, does each choice serve a clear purpose? Are all options well developed and focused towards the aims of the curriculum?

This might look like:

- A concise list of the main pedagogical aims of the curriculum
- A note highlighting any necessary choices within the learning sequence and a brief rationale contrasting each option
- A short description of modifications you or others have made to the curriculum that still allow the main aims to be achieved

Powerfully shareable curriculum materials are educative

How can curriculum materials more powerfully support teacher growth? A powerfully shareable curriculum is educative—that is, the materials are designed to promote teacher learning as well as student learning (Davis & Krajcik, 2005). We teachers often look to examples of curricula in support of our own growth as practitioners: to build our content and pedagogical content knowledge to new areas, to experiment with a new instructional model, or to visualize how specific teaching strategies manifest in lessons.

Educative curricula recognize teachers as learners and the materials of daily practice as tools for teacher growth. Embedded supports within curricula can include teacher-facing content knowledge underlying the lesson, strategies for revealing and responding to student misconceptions relevant to the topic, or suggestions of strategic instructional moves that support chosen activities. Powerfully shareable curricula are designed to do more than fill gaps in the learning sequence of a course: they enable teacher inquiry into a broader area of knowledge, skill, or pedagogy. In doing so, they aid a teacher's transformation of practice.

Questions to ask when designing shareable curricula:

- What do these materials assume a teacher knows and is able to do skillfully in the classroom? What supports enable teachers to visualize use of these materials in a classroom?
- What supports within these materials equip teachers to further build expertise?
- Do these materials assume fluency with specific pedagogical models or strategies? If so, how might the materials be designed to support teachers in building these fluencies?

This might look like:

- A text box with key background knowledge about a phenomenon explored in an activity, with anticipated student thinking about the phenomenon

A brief rationale for instructional strategies assumed by the materials, such as debate or Socratic discussion
Tools and ideas from practice that support experimentation with an instructional model, like classroom feedback structures within project-based learning
Select examples of student work that illustrate different levels of performance

Revisiting the Dropbox

You might be wondering: when is there time for all of this? The truth is, there's not—at least not for everything—and surely not within every piece of curriculum (even for a full time curriculum developer). In contrast, sharing a digital folder is often manageable, and there is value in perusing the collected resources of a trusted colleague.

When we foreground coherence, surface design decisions, and incorporate educative elements into our curricula, we make them more powerful vehicles for supporting each other's work.

However, we must recognize that "raw" curriculum materials miss much of the teacher knowledge we bring to bear when we select, refine, and use them in our classrooms. This teacher knowledge is valuable, and we add power to our shared curriculum materials when we surface this knowledge, even (and perhaps especially) in small amounts.

Different teacher knowledge will be valuable to different audiences. A beginning teacher might appreciate guidance and rationale for key teacher moves, while an experienced teacher new to the course may be more interested in background content and anticipated student thinking. Meanwhile, teachers exploring the underlying instructional model might want insight on how the curriculum enacts a specific pedagogical vision. The ideal amount of additional resources should overwhelm neither the sharer nor the audience, so I recommend starting small. By considering the most strategic areas to curate teacher knowledge within curriculum materials, we can begin to refine them as tools that support each other's practices.

All teachers are the curriculum designers of their own classrooms, whether

through creation, adaptation, or interpretation of curriculum materials. This work is a necessary (and rewarding) part of the role of a teacher. Shared curriculum materials cannot diminish this responsibility, but they can enhance it. When we foreground coherence, surface design decisions, and incorporate educative elements into our curricula, we make them more powerful vehicles for supporting each other's work. With these principles in mind, the materials we share can better support the work and learning of other teachers—by design.

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