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Perspectives

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Opportunity is Knocking: Will Education Open the Door?

by Toru Iiyoshi

Over the past year, I participated in several national and international meetings where representatives of leading initiatives, institutions, and organizations convened around the topic of shared and collaboratively developed "open source" educational tools and resources. Participants struggled thoughtfully and enthusiastically with questions of access, new development, and sustainability. Yet one of open education's most critical questions—how can open education's tools and resources demonstrably improve education quality?—was rarely mentioned. Unfortunately, this omission from the conversation mirrors the education community's serious lack of understanding about the transformative potential of open source education.

The main tenet of open education is to make educational assets freely available to the public. This is becoming easier and less expensive as network and multimedia technology evolves. Indeed, tens of thousands of open educational resources already exist online, from well-packaged course materials such as MIT's OpenCourseWare project, which allows anyone with Internet access to browse and use MIT course materials, to educational software such as physics professor and Nobel laureate Carl Wieman and his colleagues' Physics Education Technology project, which provides a suite of interactive simulations for teaching and learning physics. But several obstacles may stand in the way of using these and other powerful tools and resources in ways that will actually improve the quality of education.

First, although the tools and resources are readily available, transferring practical knowledge about how to use them is not easy. Indeed, this kind of pedagogical know-how is notoriously hard to make visible and portable. While some might argue that such knowledge is already built into educational tools and resources—that a syllabus, for instance, already embodies what the user needs to know about using that syllabus—the vast majority of this kind of practical knowledge remains tacit and invisible in the experiences of the educator or educators who created the materials. Thus, a crucial task before us is to build intellectual and technical capacity for transforming "tacit knowledge" into "commonly usable knowledge"; Building this capacity is urgent, as the process of creating and sharing quality educational knowledge needs to catch up with the burgeoning availability of open educational goods. This is why Carnegie's Knowledge Media Lab is working, along with its partner programs, organizations, and institutions, to develop and disseminate support tools and resources that capture not only materials but the stories and experiences of real teachers using those materials in the concrete settings that define the dynamics of teaching and learning. For instance, as I write this piece, a group of community college faculty is assembling at the Foundation to develop public multimedia Web sites documenting the approaches and tools they have created—

and the *thinking* behind those approaches and tools that will allow others to adapt and use them in different settings.

Second, true success in open education requires a change in education culture and policy. The education community values activities like scholarly writing and pursuing new research questions and generally counts these in the faculty reward system. But given higher education's penchant for originality above all else, adapting or improving another's educational materials is rarely understood to be a creative, valuable contribution. Thus, while we expect scholars to build on the work of others in their disciplinary research, we treat teaching as a private, highly territorial enterprise—an attitude that robs the education community as a whole. If there are no incentives for faculty to use and enrich open educational goods to transform their teaching and student learning, pedagogical practice will always struggle to advance.

Finally, we must look beyond institutional boundaries and connect efforts among many settings and open source entrepreneurs. Administrators and faculty leaders should help institutions strategize about how to support and sustain open education on a long-term basis. An initiative like the Sakai Project, for example, which is working to design, build, and deploy a new online education platform that includes course management, electronic portfolio, assessment, collaboration, communication, and other tools actually coordinates multi-institutional collaborative efforts and offers institutions the chance to collectively advance teaching and learning. All participants—core schools and institutions, vendors who provide hosting and support, and faculty and students—contribute to the project and, ultimately, to the open source collaboration and learning environment. This is the kind of cooperation and knowledge sharing that will catapult open education to a new level.

Accomplishing these goals will require hard work. But once we start openly sharing educational tools and resources, and the wealth of teaching experience that comes from effectively using these assets, I anticipate three dramatic improvements over time: increased quality of tools and resources, more effective use, and greater individual and collective pedagogical knowledge. Ideally, all will occur simultaneously, combining local classroom innovations and learned lessons through global knowledge sharing. This effort is truly exciting, since this worldwide, ever-growing work can be a collaborative effort by the creators *and* users of these tools and resources for a spectrum of purposes: from improving teaching and learning in a single classroom to creating necessary educational capacity for nation building.

Opportunity is knocking. Will we open the door?

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Carnegie Perspectives

A different way to think about teaching and learning

A while back there was an article in *The Chronicle of Higher Education*, "Open Source Is the Answer. Now What Was the Question?" The question, according to Toru Iiyoshi, is "How can open education's tools and resources demonstrably improve education quality?" And in this month's Carnegie Perspectives, Toru, who directs the Foundation's work using new media and emerging technologies, laments that this question is not asked nearly enough.

Toru challenges his fellow advocates for open education to tackle three challenges that stand in the way of real impact on teaching and learning: the need to couple educational tools and resources with information that allows others to use them effectively; the need to bring more rewards to the work of documenting and building on shared educational work; and the need to build larger collaborative communities for sharing and building knowledge. The changes Toru is calling for reflect a need to transform academic culture in fundamental ways, making this a compelling piece even for those who haven't yet thought much about open source tools and resources.