

This is a draft of a chapter that was published in

The Open Organization Guide for Educators

<https://opensource.com/open-organization/resources/educators-guide>

A practical path to open education

Dan McGuire

"Open," "openness," "open source," and "the open way" have all been part of the various organizations with which I've been involved over the past 45 years. The definition of "open" and its various manifestations in educational institutions has been fluid—evolving, expanding, refined. And that's likely to be the case for the foreseeable future.

This chapter provides background on the thinking that has informed one approach to making educational organizations more open—the approach of the Stone Arch Bridge Initiative for Education Resources (SABIER). This approach uses openly licensed content and open pedagogy on open source learning management systems all of which provides results that can then be written about and further expanded upon in open access journals.

In the beginning: Schools without walls

More than 40 years ago, I worked for a company that installed communications equipment in the St. Paul Public Schools Open Schools. The "Open Schools" of those days were buildings with very few interior walls, which is what made them "open." This "open system" of design was becoming more popular throughout the 1970s (and it's still in use in many workplaces, though in new variations). This is where my own open education journey began.

One popular criticism of such open structures was their relative noisiness, and my employer had designed some of the first [noise masking systems](#). We installed them in a number of facilities, including the Univac testing facility, where Robert Pirsig worked when he was writing *Zen and the Art of Motorcycle Maintenance*, about the search for quality—and we might read that book as a precursor to open pedagogy. Pirsig writes:

“...to tear down a factory or to revolt against a government or to avoid repair of a motorcycle because it is a system is to attack effects rather than causes; and as long as the attack is upon effects only, no change is possible. The true system, the real system, is our present construction of systematic thought itself, rationality itself, and if a factory is

torn down but the rationality which produced it is left standing, then that rationality will simply produce another factory.”

Open pedagogy and open practices fundamentally restructure the system of education. For so long, education has been dependent on the notion that content is sacrosanct. It was published, so publishers held the keys to the knowledge, and teachers and students couldn't copy, modify, rearrange, remix, or redistribute the content on their own. Open licensing of content changes all of that. Openly licensed content puts the teacher and the student in charge of learning.

This was a definition of "open" that had to do with much more than walls.

Gaining traction

In the summer of 1997, during a summer professional development session for the Connected Mathematics Project (CMP) curriculum in use at the Minneapolis Public Schools, I searched for a communication and collaboration tool that would be free and open source. The tool I found (on the advice of a friend) was Nicenet's Internet Classroom Assistant, an open source platform that was available for free to all of the Minneapolis Public School teachers of CMP. Staff directing the district's mathematics curriculum weren't impressed—they, I later found out, hadn't even been using email, so they thought anything I was introducing was "not an appropriate use of time."

But some schools in the district were not as opposed to open thinking.

Marcy Open School, a K–8 magnet school of the Minneapolis Public Schools, is an example of a building-level commitment to open learning. I was a teacher there for 15 years. The open teaching practice at Marcy was a fluid practice, and it varied depending on individual teachers. But common among many of the classrooms were:

- a focus on project-based learning (PBL)
- specific and significant effort to have students lead their quarterly reviews by giving examples via a portfolio of things they'd learned in lieu of standardized report cards
- a focus on involving as many elements of the community as possible in learning activities
- a well articulated aversion to using district curriculum

The ability to create our own curriculum held particularly high value. None of us had yet heard of open licensing; open source software was just beginning to become available and not something the school district encouraged.

Opening up professional development

I started using Moodle—an open source learning management software system—in 2006 as an instructional tool for Minneapolis Public School teachers' professional development in addition to [using it for instruction in writing](#), reading, science and math in my 3rd and 4th grade multi-age classroom. That experience led to my involvement with the Minnesota Moodle Users Group,

which eventually led to my getting involved with the Minnesota Partnership for Collaborative Curriculum (MPCC). Our collective experience as users of an open source learning management system was foundational to creating an organization that used openly licensed curriculum. Jon Fila and Jon Voss of Minnesota's District 287 were the visionary leaders who led the MPCC.

The story of the MPCC illustrates how an open way of doing things in schools can make a huge difference. The organization is nearly finished completing 40 courses in English, mathematics, social studies, and science that will eventually be released as complete, textbook-like courses available for anyone, anywhere, to use. The MPCC [even produced a video featuring](#) several teachers from the 206 Minnesota School districts that have contributed money to pay teachers to create or curate the courses. The potential savings to Minnesota taxpayers is approximately \$650 million per year. That's money currently being spent on textbooks that could instead be spent on paying for teachers to acquire skills using openly licensed content and open source software for instruction and learning assessment. Other states could replicate those savings by simply revising the courses to align with their state standards. Making those revisions would provide teachers and teacher preparation institutions in those states valuable professional development in addition to creating locally tailored curriculum.

In 2011, I started SABIER in order to provide used computer equipment to public schools. It quickly became apparent that what was impacting schools was not necessarily a *lack of equipment* but rather a *lack of teacher training* in how to use the computers and software. Many teachers were unfamiliar with using computers for instruction; many *still* don't understand the difference between the different types of licenses for software and content and how that difference impacts teaching and learning.

From 2011 through 2016, then, I consulted with software companies and educational institutions regarding the implementation of open source software (as well as non-open software). I observed that this lack of understanding about types of licenses for software and content wasn't the only thing impeding schools from making changes. Accompanying that lack was confusion about the distinctions between open pedagogy and open access journals—in addition to the confusion about licenses regarding software and content.

Educating educators about the differences in licenses and types of pedagogy became a key component of my work in establishing SABIER. My motivation for establishing SABIER as a non-profit corporation in 2016 was to create more opportunities for students and teachers to have ownership of the content they were using to learn, to provide opportunities for greater collaboration between teachers and students, and to provide support for teachers within a building, within districts, and within a larger community. The non-profit structure is an important aspect of the work that SABIER does because it enables a larger community to get involved more directly in the work—and ensures that the results of the work will remain in the community and not accrue wealth for others.

Donors have told us they are eager to support implementation of a specific and defined initiative in a school or district. Donors don't get excited about merely writing a check to a district's general fund. It is difficult (if not impossible) for them to see how that donation makes a difference. Supporting the implementation of elementary science curriculum that is aligned to standards and can also serve as a vehicle for STEM, PBL, or Maker Space work is an example of the type of targeted initiative that donors feel more comfortable supporting. Elementary science is an integral component of each of these current popular trends (STEM, PBL, or Maker Space) in K–12 education, which makes it an attractive content area to support with implementation for [open educational resources](#) (OER). SABIER is also developing professional development materials for middle school math curricula as well as for high school science, which are also areas very amenable to OER implementation.

SABIER's use of a cohort-style structure of professional development that encompasses a semester or academic year is a result of many years of experience providing professional development in both K–12 and higher education organizations. It is the method that has proven to be most effective for making enhancements in teaching and learning. The problem is that it requires considerable planning and organizational consensus building in order to be successful.

The Augsburg Hybrid Initiative

One example of a successful implementation of this cohort style of professional development was the work I did implementing the hybrid program at Augsburg University (then Augsburg College). The reinvigoration of enthusiasm for teaching that resulted when the Augsburg faculty and staff worked transparently and collaboratively over time to create a new model of teaching and learning in graduate and weekend college courses was an example of how an organic but intentional open approach to learning could achieve innovation.

“Augsburg College's strategic decision to move all of its adult learner program offerings (undergraduate and graduate) to a blended/hybrid model of teaching and learning was the result of many years of study and dialogue. Before this decision, the college's use of blended and online learning was highly inconsistent and, thereby, difficult for curriculum committees and others to manage. In 2011 the college engaged a higher education market research firm to assist in clarifying where it stood in its use of technology for teaching and learning, how best to move forward, and how to claim a consistent identity in this arena. It became clear that the best path to doing so was deploying hybrid/blended (online and face-to-face) teaching and learning offerings. This strategy could bring together the college's reputation for high-quality, intensive, face-to-face connections with students with consistently high-quality, interactive online teaching and learning techniques. In 2012 faculty members approved a proposal to formally establish hybrid teaching and learning as its approach to adult education—and perhaps more important, to become consistent in its approach to teaching and learning practices with adult learners. By the beginning of 2014, Augsburg had successfully transitioned more than four hundred graduate and undergraduate courses involving more than three hundred faculty members to a hybrid format.”

2014 Collection of Papers

Gearing Up for Hybrid Teaching and Learning: Ch-Ch-Ch-Ch-Changes!

Lori A. Peterson and Daniel M. McGuire

One of the factors that made the work at Augsburg possible was the fact that Augsburg had been using an open source learning management system for many years. In order to make the open source learning management successful, Augsburg had created and nurtured a talented team of academic support professionals to assist faculty in technology implementation and course building using a Moodle open source learning management system. Because the Augsburg community had many years experience making their own enhancements to the learning management system and adapting it to their needs, taking on the daunting task of revising more than 400 courses involving 300 faculty was feasible. Without that experience, it's doubtful the Augsburg Hybrid project could have happened.

In conjunction with the Hybrid Initiative, we also used open source books—like the well-established and respected book on blended learning by Norm Vaughan, Marti Cleveland-Innes, and Randy Garrison, *Teaching in Blended Learning Environments: Creating and Sustaining Communities of Inquiry*. Because the book was published with an open license, digital copies of the book were available to all Augsburg faculty at no cost. And because Augsburg didn't need to spend any money on the digital books, Augsburg was able to hire one of the book's authors, Norm Vaughan, to come to Minneapolis and facilitate several days of hands-on professional development with faculty.

Some lessons from the field

SABIER's focus on openly licensed courses that are equivalent to a traditional textbook is the result of these many years of experience with systemic open practices, as well as the experience of implementing software in schools in both K–12 and higher ed. The same dynamics present in the Augsburg hybrid initiative have informed the processes SABIER cohorts use to implement openly licensed content in full courses via learning management systems.

In order to be truly effective at tracking student achievement at the level of standards or individual competencies, course content must be used in a learning management system. Moreover, competency-based learning and project-based learning will need to use something like a learning management system in order to document student work. SABIER recommends using an LMS that will work for all aspects of teaching and learning and not just one discipline. It

is also important that the LMS be fully functional and not just a document management system (like, for example, Google Classroom is).

Instead of taking money out of the public school system to pay investors in a for-profit company, SABIER will be using philanthropy money to support school districts' efforts to *own* their own curricula and provide their teachers with the skills to revise and edit those curricula to meet their students' specific needs. Doing so has significant potential to lead organically to a more systemic open approach in *other* aspects of the organization.

The current (very successful) OER middle school math curriculum, Illustrative Mathematics, has been adapted by a company that houses the curriculum in a proprietary learning management system and provides access for a fee. SABIER professional development is the "no cost to public schools" version of that model. But in addition to cutting costs by using OER, public schools will also be taking an important step in creating more open organizational cultures. Another important advantage is that schools will have the ability to control their own data and use it as they see fit, rather than rely on the goodwill of a for-profit company. We know this is the future of content delivery in K–12—because it's the approach most big publishing companies are now taking.

Likewise in higher education, publishing companies currently push proprietary "homework system" in conjunction with openly licensed textbooks. The economic dynamics of higher education are somewhat different than in K–12: students currently pay for the textbooks and *also* for the proprietary homework systems. While openly licensed textbooks are now saving many higher education students a good deal of money, institutions could realize even higher potential savings if they were willing to take on the task of managing the homework systems in their own learning management systems instead of farming it out to third-party, proprietary providers. Increased teacher-student interaction, the ability to create authentic material tailored to specific objectives, and the option to control all student data more locally are advantages that openly licensed content on an open source learning management system will provide for higher education, too—that, and, of course, keeping the money spent in the system increasing teacher and student skills and institutional capacity rather than shipping it out to third parties.

The work of SABIER is to increase the amount of time teachers spend with students and to enable them to better use authentic sources that are specifically tailored to the needs of their students. We believe that openly licensed digital content and wifi-enabled devices are not a passing fad. We also believe that all students will benefit from more professional development regarding open content, but that professional development is especially critical for those teachers who will be teaching students who might not otherwise have access to quality learning that includes a strong teacher presence.

Delivering OER via an LMS is consistent with [Education Reimagined's](#) five interrelated elements characterizing student-centered learning, and we could consider it best practice for education in 2019 and beyond. Access to content in a digital format for those who choose something other than English on paper is what will really drive the future of learning. The creation of an electronic

record or archive of student work and teacher comments from which reports about *how students actually understand aligned material* is also crucial. There's a lot of chatter these days about the need for "aligned content," but very little talk about how assessment of student learning of the aligned materials gets accomplished. Using standardized tests is neither adequate nor desirable.

Using openly licensed curriculum with an open source learning management system won't necessarily lead to the educational institution becoming an open organization—but it's also not possible for an educational institution to claim to be open *without* using openly licensed content and an open source learning management system. The issue then becomes: Which is the most practical and efficient way to bring openness to an educational institution?

The answer to that is likely to vary depending on the many different types of educational institutions that exist globally. SABIER believes that implementing openly licensed curriculum with an open source learning management system supported by professional development that is based on and uses both openly licensed professional development content and open source collaboration tools is the most practical way to foster greater openness in most types of schools.

Most attractive to schools is the approach's cost-effective nature; schools must spend very little money to reap the benefits. Instead of spending *new* money, they can begin redirecting money that is currently being spent on proprietary content and proprietary tools to openly licensed content and open source tools.

But an even more significant advantage of this approach is that it helps the open organization philosophy take hold in schools and impact the actual *work* of education. This approach provides resources for creating places where collaboration and transparency are common, and an adaptable, ever-evolving curriculum maintains focus on *what* and *how* students are actually learning.