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O The pen Future

Openness as Catalyst for an Educational Reformation

By David Wiley

The word *open* is receiving a lot of attention in education circles. Openness in higher education has been discussed recently by writers in the *Chronicle of Higher Education*, the *New York Times*, *EDUCAUSE Review*, and *EQ*, among other publications.¹ In January 2010, *The Horizon Report*, produced by the New Media Consortium (NMC) and the EDUCAUSE Learning Initiative (ELI), declared that open content will “reach mainstream use” in higher education within the next twelve months.² But what does that mean? What is this *open* we keep hearing about?

The Internet now makes it possible for digital expressions of knowledge to have the same magical, nonrivalrous quality as knowledge itself.

For over a decade, *open* has been used as an adjective to modify a variety of nouns that describe teaching and learning materials. For example, open content, open educational resources, open courseware, and open textbooks are all part of the current higher education discourse. In this context, the adjective *open* indicates that these textbooks and other teaching and learning resources are provided for free under a copyright license that grants a user permission to engage in the “4R” activities:

- *Reuse*: the right to reuse the content in its unaltered/verbatim form (e.g., make a backup copy of the content)
- *Revise*: the right to adapt, adjust, modify, or alter the content itself (e.g., translate the content into another language)
- *Remix*: the right to combine the original or revised content with other content to create something new (e.g., incorporate the content into a mashup)
- *Redistribute*: the right to share copies of the original content, the revisions, or the remixes with others (e.g., give a copy of the content to a friend)³

Although the modified nouns (content, resources, courseware, textbooks) differ from one another, the actions that operationalize the concept of openness are the same. They are acts of generosity, sharing, and giving.

The Role of Openness

For the authors of content, resources, courseware, or textbooks, being open is about overcoming the inner two-year-old who constantly screams: “Mine! You can’t have it! It’s MINE!” Unfortunately, modern law and college/university

policy tend to enable this bad behavior, allowing us to shout “Mine!” ever more loudly, to stomp our feet with ever less self-control, and to hit each other with ever harder and sharper toys. Throughout our tantrums, society soothingly whispers that unbridled selfishness is a natural and therefore appropriate feeling. Regrettably, some educators and administrators have allowed themselves to be swayed by the siren song: “It’s OK. Be stingy with your lecture notes. Don’t share your slides. They’re *yours*. Sue those students who posted their class notes online. It’s legal. Go ahead.” By contrast, the idea of openness reminds us of what we knew intuitively before society gave us permission to act monstrously toward one another.

I’m frequently asked: “What is the appropriate role of openness in education?” I find the question to be deeply troubling and insidious. The question implies that openness might play any of several roles in the educational enterprise—a core or a peripheral role, a large or a small role. The question subtly distracts people from seeing that openness is the *sole* means by which education is effected. If a teacher is not *sharing* what he or she knows, there is no education happening.

In fact, those educators who share the most thoroughly of themselves with the greatest proportion of their students are the ones we deem successful. Does every single student come out of a class in possession of the knowledge and skills the teacher tried to share? In other words, is the teacher a successful sharer? If so, then the teacher is a successful educator. If attempts at sharing fail, then the teacher is a poor educator. Education is sharing. Education is about being open.

How Sharing Is Changed by New Technology

Knowledge has the magical property of being nonrivalrous—meaning that teachers can share their expertise without losing it. As Thomas Jefferson stated in his famous comparison of knowledge and fire: “He who receives an idea from me, receives instruction himself without lessening mine; as he who lights his taper at mine, receives light without darkening me.” If teachers had to make the sacrifice of unlearning an idea in order to share it with their students, the progress of society would be slow indeed.

However, whereas knowledge can be given without being given away, external expressions of knowledge cannot. When the book I need is missing from the university library shelves, I can’t read it until someone returns it. When my wife gets to the newspaper in the morning before I do, I have to wait. At least that’s the way the world worked until a few years ago. The Internet now makes it possible for digital expressions of knowledge to have the same magical, nonrivalrous quality as knowledge itself. While I’m waiting for that book to be put back on the shelf, a hundred thousand people are reading the online version of the book simultaneously. While I’m waiting for my wife to finish reading the newspaper, a million people are reading the CNN.com website simultaneously. For the first time in the history of humanity, external expressions of what we know are on an equal footing with knowledge itself. Like the flame of Franklin’s candle, both ideas and their expressions can now be given without being given away.

This ability to give expressions of knowledge without giving them away

Even though evidence of outdated thinking is all around us in higher education, demand for education continues to grow at an unbelievable rate.

provides us with an unprecedented capacity to share—and thus an unprecedented ability to educate.⁴

A Lesson from History

Technology never appears on stage alone. Technology always plays opposite its nemesis: policy. And the pair have quite the stormy history.

The 15th century saw what many have argued to be the greatest technological advance of the millennium: Gutenberg's combination of metallic movable type with the printing press. In contrast to this new capability to produce books, leaflets, and other expressions quickly and inexpensively, the 15th century also saw restrictions on the distribution of information—restrictions that make a global DMCA (or even the pending ACTA) seem like a parade of rainbow sparkle ponies.

Gutenberg's masterwork was a 42-line-per-page edition of the Bible in Latin, yet the common people of the time remained desperate for access to a vernacular edition of the scriptures they could actually read. Rather than utilize the new capabilities afforded by the printing press to provide meaningful access to the word of God, the church instead used the efficiencies of the press to ramp up production of indulgences (papers that could be purchased in order to have one's sins or the sins of a deceased ancestor forgiven), while effecting policies outlawing the possession or memorization of the scriptures in the vernacular. For example, 15th-century English law read: "Whosoever reads the Scriptures in the mother tongue, shall forfeit land, cattle, life, and goods from their heirs forever, and so be condemned for heretics to God, enemies to the crown, and most arrant traitors to the

land." Thirty-nine people were hanged for violation of this law during the first year it was in force.⁵ Capability plus demand had produced a thriving underground market—in this case, a market for pirated Bibles.

Applying the Lesson to Today

The collision of powerful new information technology, outdated policy, and overwhelming demand in the 15th century contributed significantly to the series of major historical events we now call the Reformation. Today, even as new media and technology provide mind-boggling capabilities for sharing and education, we occasionally still run into outdated policies and ways of thinking. Information technology is sometimes turned against itself and is made to conceal, restrict, withhold, and delete. For example, a course management system like Blackboard theoretically has the potential to greatly improve educators' capacity to share. Instead, many CMSs take the approach of hiding educational materials behind passwords and regularly deleting all student-contributed course content at the end of the term. If Facebook worked like Blackboard, every fifteen weeks it would delete all your friends, delete all your photographs, and unsubscribe you from all your groups. The conceal-restrict-withhold-delete strategy is not a way to build a thriving community of learning.

In another example of outdated thinking, in 2008 a Florida professor began legal proceedings against the owner of a company that sells students' notes, claiming that students' notes taken during his lecture were derivative works that infringed on his copyright.⁶ If we continue down this path, faculty will soon be asking students to sign non-

disclosure agreements (NDAs) before registering for classes—as if the contents of the periodic table, the rules of choral arranging, or the law of supply and demand were some kind of trade secrets. What is the impact on learning when teachers knowingly withhold, conceal, and restrict access to knowledge or its representations? Conversely, what is the comparative impact on learning when teachers share, give, and are generous with access to knowledge and its representations? Perhaps most important, what is our primary interest as educators: facilitating student learning or commercializing what we know? If our primary interest is facilitating student learning, then education is our field. If commercializing what we know is our primary interest, then we shouldn't be educators.

Even though evidence of outdated thinking is all around us in higher education, demand for education continues to grow at an unbelievable rate. There are currently around 120 million students in higher education worldwide. In the coming decades, experts estimate an increase of an additional 150 million students in the world's poorest countries—more than doubling the number of students seeking higher education worldwide. In India alone, two new universities would have to be built and opened each week over the next twenty-five years to meet demand.⁷ And while this demand is growing, higher education's funding is shrinking.

In short, higher education finds itself using radical new technology in backward ways, reinforcing outdated ways of thinking with law and institutional policy, and remaining unable to satisfy rapidly increasing popular demand. Sound familiar? Higher education appears to be pitched on the edge of its own Reformation.

As institutions and as individuals, we seem to have forgotten the core values of education: sharing, giving, and generosity.



Which brings us back to openness. To some degree, higher education has lost its way. As institutions and as individuals, we seem to have forgotten the core values of education: sharing, giving, and generosity. Like the frog in the famous parable, we have unwittingly allowed the water around us to be brought slowly to a boil while we sit in a pot of selfishness, restriction, concealment, and withholding. And to the degree that we have deserted the principle of openness, learning has suffered.

New media and technology have a critical role to play in the future of education. But regardless of the potential they may show in their audition, new media

and technology will get to act only those parts in which we cast them. From my perspective, the only legitimate role for new media and technology in education is to increase our capacity to be generous with one another. Because the more open we are, the better education will be. ■

Notes

1. Marc Parry, "Free Online Courses Don't Hurt Paid Enrollment, Study Suggests," *Wired Campus* blog, *Chronicle of Higher Education*, February 2, 2010, <<http://chronicle.com/blogPost/Free-Online-Courses-Don't-Hurt/21017/>>; Katie Hafner, "An Open Mind," *New York Times*, April 8, 2010, <<http://www.nytimes.com/2010/04/18/education/edlife/18open-t.html>>; John Seely Brown and Richard P. Adler, "Minds on Fire: Open Education, the Long Tail, and Learning

2.0," *EDUCAUSE Review*, vol. 43, no. 1 (January/February 2008), pp. 16–32, <<http://www.educause.edu/library/erm0811>>; Colin Currie, "Openness in Delivering Education and Content," *EQ (EDUCAUSE Quarterly)*, vol. 32, no. 2 (2009), <<http://www.educause.edu/EDUCAUSE+Quarterly/EDUCAUSEQuarterlyMagazineVolum/OpennessinDeliveringEducationa/174587>>.

2. L. Johnson, A. Levine, R. Smith, and S. Stone, *The 2010 Horizon Report* (Austin, Tex.: New Media Consortium, 2010), p. 6, <<http://www.nmc.org/pdf/2010-Horizon-Report.pdf>>.
3. See David Wiley, "Defining the 'Open' in Open Content," n.d., <<http://opencontent.org/definition/>>; John Hilton III, David Wiley, Jared Stein, and Aaron Johnson, "The Four R's of Openness and ALMS Analysis: Frameworks for Open Educational Resources," *Open Learning: The Journal of Open and Distance Learning*, vol. 25, no. 1 (February 2010), pp. 37–44, <<http://www.informaworld.com/smpp/content~content+a918784703>>.
4. Beyond sharing external expressions of knowledge, education involves debate, discourse, discussion, and other types of communication. New technologies are pretty good at facilitating these as well. But I'm restricting this discussion to openness in the context of teaching and learning resources.
5. Law quoted in Robert Green Ingersoll, *The Ghosts* (1877), <http://www.infidels.org/library/historical/robert_ingersoll/ghosts.html>.
6. Ryan Singel, "Lawsuit Claim: Students' Lecture Notes Infringe on Professor's Copyright," *Wired*, April 4, 2008, <<http://www.wired.com/threatlevel/2008/04/prof-sucs-note/>>.
7. John Daniel, Asha Kanwar, and Stamenka Uvali-Trumbi, "Mass Tertiary Education in the Developing World: Distant Prospect or Distinct Possibility?" June 15, 2007, <<http://www.col.org/resources/speeches/2007presentations/Pages/2007-massTertiaryEd.aspx>>.

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