Chapter 17
Selectively Employing Open-Source Resources for Online Learning

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ABSTRACT

Those who work in instructional technologies and design have long been turning to the usages of open-source resources (learning / course management systems, software tools and apps, authoring tools, digital learning objects, simulations, games, and virtual spaces) for online learning—for many reasons—their easy availability (through download), the often-free price-tag, the popularity of open-source resources among learners, and the savings in terms of development (not maintenance) costs. This chapter examines the selective adoption of open-source resources for online learning and the practical considerations that inform this decision.

INTRODUCTION

Under certain technological circumstances, practically feasible opportunities for action are distributed in such a pattern that they are amenable to execution by a class of approaches to organizing production that rely on sharing. These are typified by (1) radical decentralization of the capacity to contribute to effective action and the authority to decide on the contribution and (2) reliance on social information flows, organizational approaches, and motivation structures, rather than on prices or commands, to motivate and direct productive contributions. - Yochai Benkler (2004, p. 331)

Institutions of higher education have benefited from the idealistic streak in Web 2.0 that has enabled widespread open-source sharing of digital contents. Human goodwill and ingenuity have enabled the creation of a number of open-source and generally free resources based on what J.L. Zittrain calls the "generative Internet" (2006). While open-source software creation has existed for decades and had powerful proponents, and Open Courseware (OCW) and Open Educational Resources (OER) movements have also had well-known individuals promoting their success, open-source contents have simply been elicited through the creation of various socio-technical

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spaces. These spaces have enabled peer-to-peer sharing (of images, audio, video, slideshows, games, code modifications, and other digital elements); the easy downloading of open-source software tested for malware; the structural open-sources software for knowledge management; the crowd-sourcing to know the popularity and validity of certain open-source software; and the enablement of virtual communities to coalesce around certain digital tools and resources.

While open-source software, on the surface, may seem like an easy choice, those in the field have advised paying attention to the hidden costs of the adoption of some open-source tools. The integration of open-source tools in mission-critical endeavors at a university or college may be an issue of concern unless a software has been thoroughly vetted. Such software could include learning / course management systems; digital repositories, and knowledge management software. The risks of open-adoption may be of many sorts: investment, development, coordination, motivation, control, security, governance, and culture risk (Arakji & Lang, 2007, 37 – 38). The shape and manifestation of the risk will vary depending on the institution of higher education, the context, and the technologies. This chapter explores the adoption of open-source resources for online learning and the practical considerations that may go into this decision.

BACKGROUND

Commercial and proprietary corporations have gone to open-source resources as a "commercial engineering force-multiplier and important option for avoiding significant software development costs" (Hubbard, 2004, p. 25). In recent years, research has found that K-12 institutions are responding to open-source digital resources, with cost-savings as a central motivation (Waters, 2010). In higher education, too, the adoption of open-source resources for teaching and learning has been gaining traction, particularly over the past three years (van Rooij, 2011). While it is said that the ideological positioning of an organization affects whether it adopts open-source software (Ven & Verelst, 2008), many are finding the use of open-source resources strategic and practical, with saving on software licensing fees and learning object development costs.

The Many Cultures of Higher Education

Higher education accommodates a range of diverse cultures as it integrates a variety of diverse fields and thinkers from around the world. While it requires core knowledge that are necessary for global citizenship, it also enables high levels of specialization particularly at the graduate levels. The learning is not just about helping the learners find meaningful and rewarding lifelong work but about developing them as fully actualized human beings who are sufficiently confident to explore their world (think study abroad programs) and contribute to it. The focus of higher education is to share learning and to include diverse voices and variant points-of-view. A strong streak of altruism may be found in higher education—with plenty of mentored service learning endeavors. Open-source contributions by learners are many, and many maintain the liberal assumption of peer-to-peer sharing in the exchanges of digital resources. Learners have taken readily to using open-source resources.

For administrators, the authorizing environment may be somewhat more constrained. Any system-level adoption of mission critical technologies has to support the school's policies or rules of engagement. Any adopted technologies have to be secure and ensure learner privacy. Technologies have to support intellectual property rights. They have to provide accessibility mitigations to be inclusive of various learners. They have to interact well with other technological systems. They have to function effectively on the equipment