

E-learning Roadmap Guiding Principles

Following are some assumptions and guiding principles for selection and support of toolkits for e-learning. This document is not intended to describe or recommend specific functional requirements, which are being defined through a separate process, but rather to provide guidance on technology and planning approaches to meeting the needs expressed through these other processes. These guidelines are intended primarily to address institutionally supported e-learning toolkits, but are also applicable to toolkits that individuals and units choose to use on their own.

Draft prepared by Samantha Earp, Susan Gerbeth-Jones, Jackie Gottlieb, Paolo Mangiafico, and Dwayne Marlowe, November 2009.

Assumptions

- 1 **There are a set of core baseline requirements that would apply to any university supported, widely used tools. The tools must:**
 - 1.1 integrate the needs of faculty and students in the context of meeting institutional goals and directives
 - 1.2 be easy to use and facilitate the teaching and learning process rather than adding burdens to it
 - 1.3 scale to be able to consistently and efficiently support the size of our user community and the diversity within it (i.e., faculty, graduates, undergraduates, distance learners, international students, etc.)
 - 1.4 be robust, with a good record of stability and minimal service interruptions when used in contexts similar to ours
 - 1.5 protect the security and privacy of users and their data (includes complying with requirements under FERPA, HIPAA, and other relevant policies)
 - 1.6 use industry standards - to access and export data so that it can be transferred to or used in other systems (or archived) as necessary
- 2 **There is no *a priori* preference for open source or proprietary systems. The key criteria are how well the system(s) meet the expressed needs.**
- 3 **User needs and desires, as well as teaching and learning methodologies, will continue to evolve, and that the toolkits Duke supports for e-learning will need to change frequently to continue to meet these evolving needs.**

Principles

- 1 **Favor modular approaches that allow interoperability of loosely coupled best of breed toolkits, which will permit:**
 - 1.1 the ability to swap out different parts as needed
 - 1.2 the option to use specialized tools without requiring change to the overall system
 - 1.3 the use of open standards and APIs, which will make it easier to interoperate with different services, and allow users to choose interfaces and toolkits they prefer. Examples:
 - provide calendar-like data in standard VCS or ICS formats that can be integrated with existing calendar systems, instead of assuming a calendar tool needs to be built into the e-learning system
 - offer data as RSS feeds to give users the ability to view and make use of the data in a variety of tools that use this standard
- 2 **Consider toolkits that have evolved as net-scale “cloud” services (if they meet the assumptions listed above, i.e., robust, secure, exportable, etc.), in order to:**
 - 2.1 benefit both from network effects gained by widespread use and from the scaling and stability and other requirements that emerge from this kind of use.
 - 2.2 only use work-alike locally-run versions when absolutely necessary, i.e. the tools don’t have to be run in house
- 3 **Analyze how to most effectively use our limited resources to achieve the e-learning goals.**

3.1 In some cases, using third-party toolkits, instead of providing a local version of the same toolkit, would free up resources that could be dedicated to integrating the tools into local contexts and use cases and also enable us to provide better user support.

3.2 Sufficient resources should be allocated to implement effective use of identified toolkits for teaching and learning, getting data out for portability and archiving, privacy and intellectual property practices, etc.

3.3 It's more likely that students will use some of these third-party net-scale tools and principles in their personal and professional lives, so providing more support for using them effectively also helps leverage current resources into the future

4 Provide effective identity and group management

4.1 One of the key local services that only Duke can provide is accurately and consistently identifying individuals and their roles in different aspects of their work at Duke.

4.2 Aim for tools that can integrate with Duke-specific groupings such as participants in a course, members of a department or working group, etc. and if possible, use existing authentication credentials. For example,

- integrating local identity management into a third-party systems, such as Google Apps, may not be an option, but we might supply lists of e-mail addresses generated from class rosters (or other appropriate groups) that faculty and students can use to create sharing lists.

4.3 Give users the option to work across institutional boundaries (including federated and net-scale identity management systems, like InCommon and OpenID), not just in the academic community, but in Internet culture and industry more generally.

5 Favor tools (whether open source or proprietary) that have a broad community of users and developers. (Especially consider what peer institutions are doing.) The benefits include:

- the network effects gained among users and system managers,
- faster bug identifications and fixes ("with enough eyeballs, all bugs are shallow")
- access to a variety of approaches to solving particular problems, and therefore choices for how we could solve those problems or meet those needs
- longer development and support lifecycles and larger number of service providers who support the tools
- collaboration to help advance e-learning techniques

6 Integrate strategies to accommodate constant change and evolution in the overall e-learning plan

6.1 Budget for ongoing costs associated with regular changes, rather than assuming massive migrations every 3 to 5 years.

6.2 Plan for transition costs associated with any change, and where possible, focus energies on minimizing those transition costs through increased support.

6.3 Designate an advisory group that keeps up with changing trends in e-learning methods and tools and recommends ongoing changes as needed.

7 Accommodate and encourage multiple modes of access

7.1 provide content and services in formats that are usable in a variety of platforms (i.e., formatted for small-screen mobile devices, e-book readers, print, etc.) and languages; assume that users may use unfamiliar hardware and software.

7.2 use open standards and protocols wherever possible to facilitate users adapting e-learning content and services to as many tools as possible, even if we can't provide support for particular tools. Publicize the availability of these protocols so users can create custom queries or displays of Duke e-learning content if they wish.