

The Role of OSS, Open Standards, Open Content & E-learning Standards in E-learning

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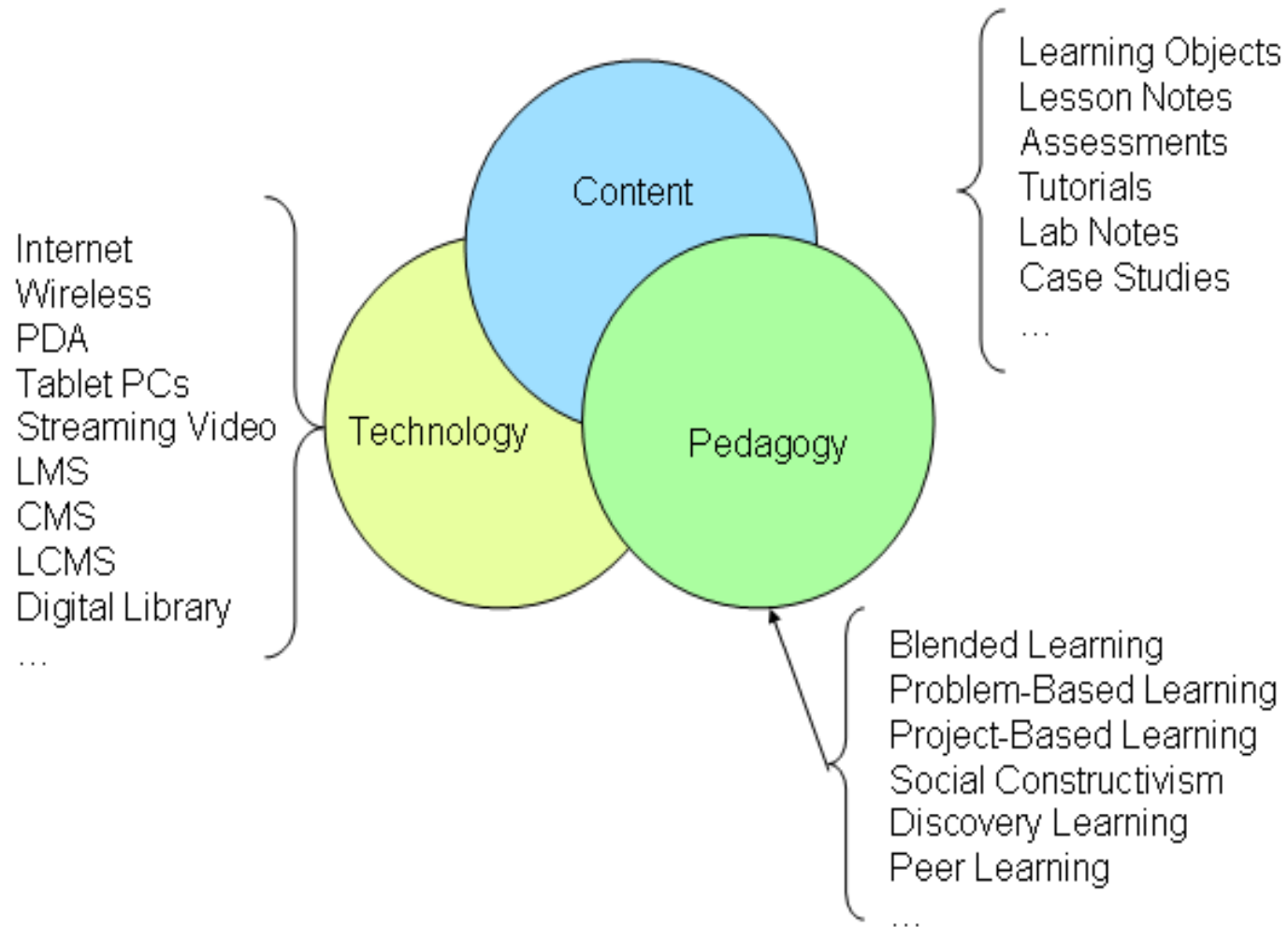
Contents

- Introduction
- OSS for E-learning
- Open Standards for E-learning
- Open Content for E-learning
- E-learning Standards
- Conclusions



Introduction

Scope of e-Learning



Changing Environment in E-learning

- Rising costs & shrinking budgets
- Rapid changes in technology
- Increasing demands from learners for more learner-centred e-learning
- Software patents, content copyright, interoperability issues, re-purposing (or re-using) issues & content “longevity” are new challenges.
- OSS, Open Standards, Open Content and E-learning Standards are the way to go forward.

OSS for E-learning - 1

- Definition of OSS from the Open Source Initiative's website.
- With OSS, the user will be able to read, modify and share the source codes of the software.



OSS for E-learning - 2

Category	OSS example
LMS	Moodle, ILIAS, ATutor, Claroline, Docebo, OLAT
LCMS	Fedora (not the Linux version from Red Hat), DOOR (Digital Open Object Repository)
CMS	Plone, Joomla!
Tools	Xerte (XML Editor and Run-Time Editor), eXe (eLearning XHTML editor), RELOAD (Reusable E-Learning Object Authoring and Delivery), Pachyderm
Learning Environment (Computer Supported Collaborative Learning)	FLE3 (Future Learning Environment)
Assessment	APIS (Assessment Provision through Interoperable Segments) – based on IMS QTIv2 specification

OSS for E-learning - 3

- Challenges in OSS for E-learning:
 - Mix and match of software with different licenses
 - Freely downloadable but who to do the maintenance?
 - Different technologies used – e.g. some application systems are PHP & MySQL; others are Java applications. All these can lead to difficulties in integration.
 - Except for some software applications, many others have been developed by technologists rather than people with teaching / learning background. Technological solutions or solutions for teaching / learning difficulties?

Open Standards for E-learning -1

- Open Standards:
 - Information is publicly available
 - Various rights to use the information are associated with the information
- Various meanings of “open” and “standard”:
 - “open” – royalty-free technologies
 - “standard” – technology specs approved by ISO / IEC bodies



Open Standards for E-learning - 2

- Some definitions of “open standard”:
 - Patent holders can impose RAND (Reasonable and Non-Discriminatory) royalty fees & other licensing terms
- “Open Standard” also coupled with “open source”:
 - Not truly open unless there is a free / open source implementation
 - FOSS / FLOSS associated with “open standards”
- Open standards specifying formats are referred to as open formats, e.g. ODF



Open Standards in E-learning - 3

- Tensions between open standards development, user-focused development, innovative development & long-term preservation.
 - E.g. Podcasting uses the RSS technology but RSS is not a standard at all.
 - E.g. PDF is an ISO standard (ISO 19005-1) but the software to develop PDF documents is a proprietary product from Adobe.
 - E.g. ODF is an ISO standard but it is not as popularly used as Microsoft Office format. Yet Microsoft Office Open XML is not an ISO standard.
- Open standards may not gain market acceptance.

Open Content for E-learning - 1

- Open content:
 - any kind of creative work (including articles, pictures, audio and video) or
 - engineering work (e.g. open machine design) that is
 - published in a format that allows anyone to copy and modify the information.
- Technically royalty free, share alike & may or may not allow for commercial redistribution.
- Content can be in public domain or under one of the Creative Commons licenses
- E.g. Open Directory Project – open content but not free content – free as is “no \$ charge”



Open Content for E-learning - 2

- Challenges:
 - Want to allow people to edit content but also want to keep the ownership
 - May not mean no charge
 - Accuracy of content may be questionable if review panel is not of high standard
 - Case of MIT's OpenCourseware Project – content freely available but online tutoring / mentoring is not available. So, does making content freely available means you are into e-learning? Information versus instruction.

E-learning Standards - 1

- Many specifications have been developed by organisations like the AICC, IMS, IEEE LTSC and the ADL Project.
- Mostly technical specifications & there are just too many of them around. Many of them are very difficult to digest and use.
- What about having lightweight de facto standards in e-learning? E.g. RSS, use of tags rather than IEEE LOM

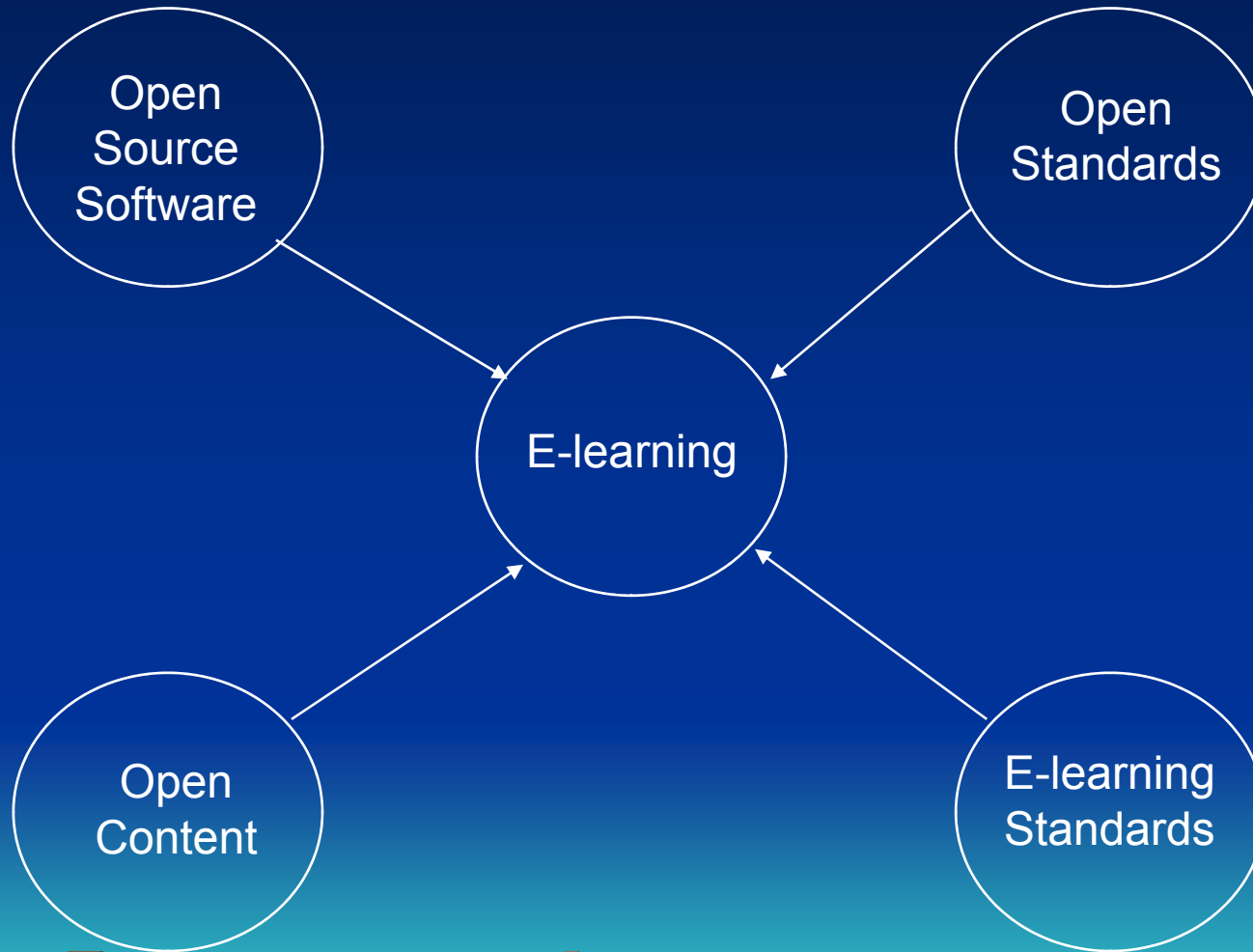


E-learning Standards - 2

- Challenges:
 - Blackboard's patent on online learning & the legal suit against Desire2Learn – will this put a damper on other LMS vendors?
 - Intellectual Property Rights Policy – will the signing of a document giving up any patent claims be sufficient?



Conclusions - 1



Conclusions - 2

- There are many e-learning standards & specifications but not all of them are used widely. Standards will evolve with the times.
- Almost all of them deal with the technology part. Difficult to have standards in pedagogy.
- More tools and systems will be based on Open Source Software.
- More open content but it does not mean that it will lead to better learning.
- Ultimately, the future may see more open learning content being made available